Soaring Heights Charter School **Revised August 2024**
1st Grade - Big Ideas Math

Chapter 1 - Addition and Subtraction Situations

STANDARDS
OA.A.1, OA.A.2, OA.C.6, OA.D.7, OA.D.8

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies such as counting on; making ten

  (e.g. 8 + 6 = 8 + 2 + 4 = 10 +4=14 ,); decomposing a number leading to a ten

  (e.g. 13-4= 13 - 3 -1= 10-1=9,); using the relationship between addition and subtraction (e.g., knowing that , one knows ; and creating equivalent but easier or known sums (e.g., adding by creating the known equivalent).

- Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6=6, 7=8-1, 5+2=2+5, 4+1=5+2.

- Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations , 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?

Objectives:

- Add to a group of objects and write an addition equation.
- Solve *add to* word problems.
- Solve *put together* word problems.
- Find addends for a given sum.
- Solve *take from* word problems.
- Solve *comparing* word problems by finding how many more.
- Solve *comparing* word problems by finding how many fewer.
- Solve *add to* word problems that involve a missing addend.
- Solve word problems that involve putting together and taking apart.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Act It Out - Have students act out addition or subtraction problems. Call a small group of students to the front. Give them an imagined identity, such as pirates, ladybugs, fairies, astronauts, etc. For example, if you call 3 students to the front, say, “I have 3 pirates up here with me.” Then, call for more pirates. For example, say, “I need 2 more pirates. Who can come be a pirate?” Choose students to come forward. Then, review the equation. Say, “I started with 3 pirates. Then, 2 more pirates joined us. How many pirates are there now?” Repeat several times, using different imagined identities and different combinations of numbers. Consider asking the class for ideas about what the student volunteers should be.

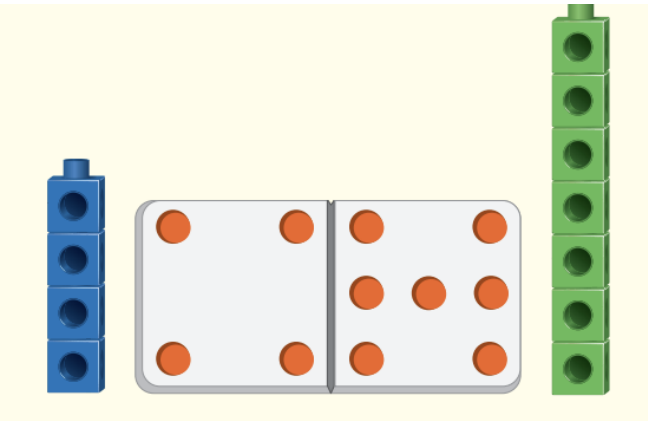
Clay and Cookie Cutter Count - Provide students with modeling clay and small shape cutters or cookie cutters. Instruct them to use the cutters to create a certain number of shapes in the clay.

For example, tell students, “Make 3 hearts.” When they have completed this step, have them make an additional group and say, “Make 3 more hearts.” Allow for time to work on the second group and then ask, “How many hearts do you have now?” Repeat several times, using different number combinations and different shapes.

Bean Bag Toss - Give students some bean bags or softballs (no more than 10) and a small box. Have students stand a short distance away and toss bean bags at the box. Have them write a subtraction equation by subtracting the number of bean bags that landed outside the box from the starting amount. Repeat using different numbers of bean bags.

Gifted and Talented

Domino Build and Compare - Have students work in pairs. Give each pair a set of dominos and two different colors of linking cubes. One student picks a domino and turns it so that one half is toward each student. Students build a linking cube tower that represents the number on their half. Then students compare the numbers of cubes. For example, if the domino has a 4 and a 7, one student builds a tower with 4 blue cubes and the other builds a tower with 7 green cubes. Students compare and say, “There are 4 blue cubes and 7 green cubes. There are 3 more green cubes.” Have students play several rounds, taking turns picking dominos.



Vowels vs. Consonants - Give students construction paper and have them write their names in large print with markers. Then, ask them to count how many vowels and consonants are in their name, and write the numbers on their page. Next, have students compare the numbers. Have them determine whether there are fewer vowels or consonants in their names, and how many fewer. After students have compared, call on a few students and ask them to share a comparison with the class. Make a class book and or graph. Which student has the most consonants? Which student has the most vowels? Fewest consonants? Fewest vowels? Which students have the same amount of consonants and vowels?

Chapter 2 - Fluency Strategies Within 10

STANDARDS

OA.A.1, OA.B.3, OA.B.4, OA.C.5, OA.C.6, OA.D.7, OA.D.8

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem
- Apply properties of operations as strategies to add and subtract. Examples: If $8 + 3 = 11$ is known, then $3+8=11$ is also known. (Commutative property of addition.) To add $2+6+4=2+10=12$ the second two numbers can be added to make a ten, so . (Associative

property of addition.) (Clarification: Students need not use formal terms for these properties.)

- Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.
- Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
- Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies such as counting on; making ten

  (e.g. 8 + 6 = 8 + 2 + 4 = 10 +4=14 ,); decomposing a number leading to a ten

  (e.g. 13-4= 13 - 3 -1= 10-1=9,); using the relationship between addition and subtraction (e.g., knowing that , one knows ; and creating equivalent but easier or known sums (e.g., adding by creating the known equivalent).

- Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6=6, 7=8-1, 5+2=2+5, 4+1=5+2.
- Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations , 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?

***Objectives**:*

- Solve equations when an addend is 0.
- Subtract 0 and subtract all.
- Add and subtract 1.
- Find the sum of doubles from 1 to 5.
- Use the *double*s plus 1 and *doubles* minus 1 strategies to find a sum.
- Use the *count on* strategy to find a sum.
- Use the *count back* strategy to find a difference.
- Use the *add to subtract* strategy to find a difference.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
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5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Ten Beads - Organize students into pairs or small groups. Give each student a bowl of 10 beads. Call out a number between 1–10. Have one student count out that number of beads. Then, instruct students to “Subtract 0” or “Take away 0” by giving 0 beads to their partner. Encourage students to actually mime passing 0 beads. Have students switch roles and repeat, using a different starting number. Play several rounds, varying whether you instruct students to subtract 0 beads or subtract all their beads.

Doubles Plus/Minus 1 - Have students sit in pairs. Give each pair a collection of small objects such as beads, pennies, or counters. One student makes a double and then closes their eyes. The other student either adds or takes away 1 object. The first student opens their eyes and students work together to write a number sentence to show the addition or subtraction problem they created.

Gifted and Talented

Plus/Minus 1 - Write “+1” and “−1” on several counters and place in a bag. Place a number line on the floor. Have a student hop to a number between 1 and 9. Then have the student choose a counter from the bag and perform the operation. Other students can write the equation modeled by the jumps. Repeat with different students and different starting numbers.

Partner Doubles - Have students work in pairs. One student folds a piece of paper in half, and draws 1 to 5 objects (such as dots, stars, boxes, or lines) on one side. The other student draws the same number of objects on the other side and writes an addition equation for the total number of objects using doubles. Have students switch roles and repeat.

Chapter 3 - More Addition and Subtraction Situations

STANDARDS

OA.A.1, OA.B.3, OA.C.5, OA.C.6, OA.D.8

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem

- Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3+8=11 is also known. (Commutative property of addition.) To add 2+6+4=2+10=12 the second two numbers can be added to make a ten, so . (Associative property of addition.) (Clarification: Students need not use formal terms for these properties.)
- Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies such as counting on; making ten

  (e.g. 8 + 6 = 8 + 2 + 4 = 10 +4=14 ,); decomposing a number leading to a ten

  (e.g. 13-4= 13 - 3 -1= 10-1=9,); using the relationship between addition and subtraction (e.g., knowing that , one knows ; and creating equivalent but easier or known sums (e.g., adding by creating the known equivalent).

- Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6=6, 7=8-1, 5+2=2+5, 4+1=5+2.
- Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations , 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?

Objectives:

- Solve for a missing addend given an addend and the sum.
- Solve a subtraction equation to find the missing part.
- Solve a subtraction equation to find the whole.
- Solve *compare* word problems when given how many fewer.
- Identify whether an equation is true or false.
- Find the missing addend that makes 10.
- Write related addition and subtraction equations to complete a fact family.

Mathematical Practices:

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6. Attend to Precision
7. Look for and Make Use of Structure

8. Look for and Express Regularity in Repeated Reasoning

Activities:

Deck of Cards - *Give students a deck of cards (remove face cards). Have students cut out the cards, mix them up, and place them in an envelope or box. The student then draws 2 cards. The higher card is the sum for an addition sentence. The lower card is one addend. Students must find what the second addend is. For example, if a student draws a 5 and a 7, the 7 will be the sum. The student must give the missing addend, 2, in order to make the addition sentence 5 + 2 = 7.*

Falling for Math - Ask students if they know what happens to some trees in the autumn. Discuss how the leaves of some trees change color, then fall off. Give students paper and markers or crayons. Have students draw a tree with several orange, yellow, or red leaves on one half of the paper. On the other half, have them draw the same tree with fewer leaves still on the tree. Then, have them write and solve a subtraction equation showing the total number of leaves, the number of leaves that fell to the ground as a missing part, and number of leaves that still remain on the tree.

Gifted and Talented Activities:

Parts of Equations - Use objects in your classroom, around the school, or outside to form an equation and have students determine whether it is true or false. For example, ask, “Is the total number of walls and doors the same as the total number of windows and shelves?” Or, “Is the total number of trees and bushes the same as the total number of buildings and fences?” Students can work in groups, with some students counting objects and others writing the different parts of the equation.

Make 10 Have students play “Go Fish Ten.” Give student pairs a pack of cards, omitting the 10s and the face cards. Tell students that aces represent 1. Student pairs will play Go Fish, looking for pairs of cards that add up to 10. Each student begins with 5 cards. Each student makes pairs of any cards in their hand that add up to 10. Then, students take turns asking, “Do you have a …?” Remind students that they are not looking for the same card, as in a traditional game of Go Fish. Rather, they want the number that they can add to a card in order to get a total of 10. For example, if a student has a 2, he or she will ask, “Do you have an 8?” Model how to play with students, then have pairs play. The student who collects the most pairs of cards wins the game. Students may play several rounds.

Mathematical Practices:

Chapter 4 - Add Numbers within 20

STANDARDS

OA.A.1, OA.A.2, OA.B.3, OA.C.6, OA.D8.

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- Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem
- Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3+8=11 is also known. (Commutative property of addition.) To add 2+6+4=2+10=12 the second two numbers can be added to make a ten, so . (Associative property of addition.) (Clarification: Students need not use formal terms for these properties.)
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- Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations , 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?

Objectives:

- Find the sum of doubles from 6 to 10.
- Use the *double*s plus 1 and *doubles minus 1* strategies to find a sum.
- Use the *count on* strategy to find a sum.
- Add three numbers.
- Use the *make a 10* strategy to add three numbers.
- Use the *make a 10* strategy when adding 9.
- Use the *make a 10* strategy to add two numbers.

- Solve addition word problems.

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Activities:

Make Music - Provide students with instruments such as shakers made out of plastic eggs filled with dry beans or bongo drums. Divide the class in half. Call out a number between 6 and 10. One half of the class plays that many beats. Then the other half plays the same number of beats. Then, the whole class plays the double of the number. Encourage students to count as they play the beats.

Partner Picture Sums - Give each student a playing card from 6 to 10 and choose two kinds of objects for students to draw, such as circles and stars. Have students draw the number of objects on their card, using circles if their card is red or stars if their card is black. Students then find a partner who draws the same picture and work together to write the sum of the objects.

Gifted and Talented

Party Planner - Encourage children to solve real-life problems in the classroom involving addition and subtraction facts to 20. For example, they might calculate the number of materials needed to complete a craft project or the number of snacks left at the end of a party.

Just the Facts - Challenge children who have mastered the addition and subtraction facts to write as many equivalent forms as they can of the same number. For example, given the number 9, they may write: 16 - 7 = 9, 4 +5 = 9, 15 – 6 = 9, 7 + 2 = 9, etc.

Chapter 5 - Subtract Numbers Within 20

STANDARDS

OA.A.1, OA.B.3, OA.C.5, OA.C.6, OA.D.7, OA.D.8

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem

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  (e.g. 8 + 6 = 8 + 2 + 4 = 10 +4=14 ,); decomposing a number leading to a ten

  (e.g. 13-4= 13 - 3 -1= 10-1=9,); using the relationship between addition and subtraction (e.g., knowing that , one knows ; and creating equivalent but easier or known sums (e.g., adding by creating the known equivalent).

- Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6=6, 7=8-1, 5+2=2+5, 4+1=5+2.
- Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations , 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?

Objectives:

- Use the *count back* strategy to find a difference.
- Use the *add to* subtract strategy to find a difference.
- Use the *get to 10* strategy when subtracting 9.
- Identify whether an equation is true or false.

- Find the number that makes an equation true.
- Solve subtraction word problems.

Mathematical Practices:

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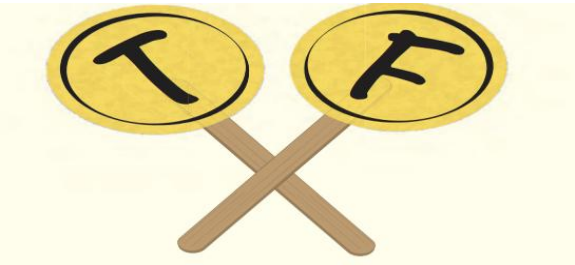
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Partner Posters - Divide students into groups and provide each group a subtraction word problem to complete, such as the following.

I find 15 _____. My friend finds 8 _____. How many fewer _____ does my friend find?
Students work together to create a poster that shows the completed word problem, the answer, and how they solved the problem. Students can create drawings to illustrate their word problem and share their posters with the class.

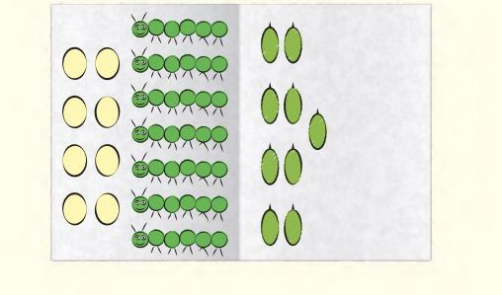
True or False? - Give each student a popsicle stick with a large "T" on one side and an "F" on the other. Ask questions based on science facts that students have already studied, such as, "Are cats mammals? Are rocks plants?" Have students show true or false using the popsicle stick. You can also give students equations, such as "Are 3 birds and 12 birds the same as 14 birds?



Gifted and Talented Activities:

The Greater Difference - Give each pair of students number cards from 1 to 9. Each student choose a card and completes the equation “1__ − __ = ?” using their number in the first space. For example, if students draw a 6 and a 9, the student who draws 6 writes 16 − 9 = ? and the student who draws 9 writes 19 − 6 = ?. Students use the add to subtract strategy to find the difference for their equation. The student with the greater difference keeps both cards. Play until all cards are used.

LIfe Cycle Math - Discuss the life cycle of butterflies with students. Butterflies start as eggs, hatch into caterpillars, spin cocoons, and emerge as butterflies. Have students fold a piece of paper in half and draw a picture with eggs and caterpillars on one side. Then have them draw some cocoons on the other side, fewer than the total number of eggs and caterpillars. Student trade drawings with a partner and draw butterflies next to the cocoons to make the total the same on both sides.



Chapter 6 - Count and Write Numbers to 120

STANDARDS
NBT.1, NBT.B.2a, NBT.B.2b, NBT.B.2c

- Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
- a. 10 can be thought of as a bundle of ten ones — called a “ten.”
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Objectives:

- Count to 120 by ones.
- Count to by 120 by tens.
- Understand and write numbers from 11 to 19.
- Understand and write decade numbers
- Count tens and ones to write numbers.
- Use quick sketches to model numbers as tens and ones.
- Understand the value of each digit in a two-digit number.
- Show different ways to write numbers.
- Count and write numbers to 120.

Mathematical Practices:

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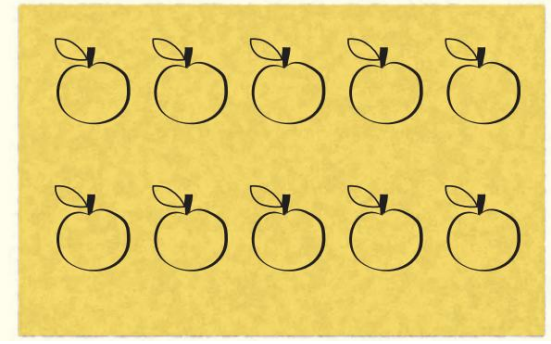
Extended Activities:

Fruity Tens - On half-sheets of construction paper or large index cards, each student draws ten of the same fruit. Then they complete the following sentence stem: There are 10 _____. Using magnets or tape, post all of the drawings on one side of the board. Select between 1 and 9 of the drawings and move them to the center of the board. Have students count the number of groups of 10 that are in the center of the board and complete the sentence: _____ tens and _____ ones is _____. Repeat this until each decade number has been used at least once.



Sound Off - Teach students the Tens and Ones Chant: I don't know But I've been told, Tens are tall And ones are small. First you count up All the tens. Then you add ones To the end! Have students hold up a row of 10 connected linking cubes using their left hand when they say the

line, “Tens are tall.” Then have them hold up a single cube using their right hand when they say the line, “Ones are small.”

Gifted and Talented Activities:

Tens and Ones Matching - Give each pair of students a copy of the Tens and Ones Matching Game Instructional Resource. Have students cut out the cards, mix up the number cards and put them in a pile face down, and mix up the picture cards and lay them face up on the table. Students will draw a number card and do the following.

- State the number.
- Identify the number in the tens place and its value.
- Identify the number in the ones place and its value.
- List the numbers of rods and cubes needed.
- Find the correct picture card. Once they have correctly matched each number with its picture, have students use the cards to play flip-and-find.

Alternate Representations - Have students create a shortcut for finding alternate representations of tens and ones. Challenge them to find any numbers that have exactly two representations. Can they describe how many different representations a number might have?

Chapter 7 - Compare Two-Digit Numbers

STANDARDS
NBT.1, NBT.B.2a, NBT.B.2b, NBT.B.2c, NBT.3

- Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
- a. 10 can be thought of as a bundle of ten ones — called a “ten.”
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Objectives:

- Compare two numbers between 11 and 19.
- Compare two numbers within 100.
- Use place value to compare two numbers within 100.
- Use symbols to compare two numbers within 100.
- Use a number line to compare two numbers within 100.
- Identify numbers that are 1 more, 1 less, 10 more and 10 less than a number

Mathematical Practices:

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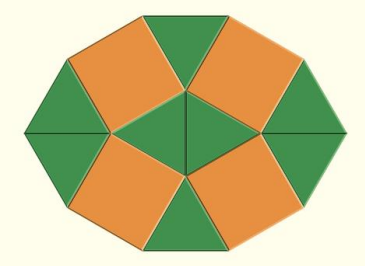
Activities

Station to Station - Set up stations around the room, each with 40 countable manipulatives, such as linking cubes, buttons, pennies, or other small countable objects. Place two number cards at each station that students will model with the manipulatives provided. While playing a song, have partners start at one station and model the greater than or less than statement with the manipulatives. When the song is paused, the students should mix up their manipulatives and move to a new station. Repeat until all students have gone through each station.

Pattern Block Patterns - Provide each student with 9 square pattern blocks and 9 triangle pattern blocks. Give students time to create a pattern with the provided blocks, but mention that they do not need to use all of the blocks. Once students create a pattern, have them form a two-digit number by counting the amount of square pattern blocks they used as the tens and triangle pattern blocks they used as the ones. Have students record this number on paper and compare with a partner. Students should create a comparison statement using greater than or less than. For example, the image below used 4 square pattern blocks and 8 triangle pattern blocks, so the two-digit number is 48.



Tens and Ones Toss - Set up 2 bins, one labeled “Tens” and the other labeled “Ones.” Have Partner A throw 9 bean bags into the bins and record how many they made into the “Tens” and “Ones” bin. Have Partner B do the same, recording their number. The two partners will then compare their numbers using a comparison statement with greater than or less than. For example, if Partner A makes 2 bean bags into the “Tens” bin and 4 bean bags into the “Ones” bin, Partner A’s number is 24. If Partner B makes 5 bean bags into the “Tens” bin and 0 bean bags into the “Ones” bin, Partner B’s number is 50. Partners would say “24 is less than 50.

Gifted and Talented Activities

America - Discuss the 100 seats in the United States Senate with students. Research the amount of Democrats, Republicans, and Independents that make up the Senate. Have students compare the numbers using a comparison statement. For example, if there are 46 Democrats and 52 Republicans, students would compare saying “46 Democrats is less than 52 Republicans.”

Animal Eggs - Have students study the amount of eggs animals can lay in 1 day. Students will use a number line and symbols to compare the different amount of eggs. For example, sea turtles lay 98 eggs, while pythons lay 57 eggs. Have students plot both numbers on a number line and compare using the correct symbol. Note: Print off pictures of animals and write the amount of eggs they lay in 1 day on the picture. Students will then use the pictures to plot and compare, making this activity more hands on.

Chapter 8 - Add and Subtract Numbers

STANDARDS

NBT.B.2a, NBT.B.2b, NBT.B.2c, NBT.C.4, NBT.C.5, NBT.C.6

- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
  - a. 10 can be thought of as a bundle of ten ones — called a “ten.”
  - b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
- Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
- Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Objectives:

- Use mental math to add 10.
- Use mental math to subtract 10.
- Add tens.
- Use an open number line to add tens.
- Subtract tens.
- Use an open number line to subtract tens.
- Use addition to subtract tens.
- Add tens to a number.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics 1.2 Practice Exercise 5, p. 14
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Sums of 10 More - Show ___ + 10 = ___ on the board where all students can see. Write several numbers from 1 to 89 on sheets of paper. Have two students stand up next to each other. Hold one of the sheets of paper over the first blank of the equation on the board. The first student to find the sum correctly stays standing up and plays the next round against the next student. Continue until all the number cards are used or all students have played at least once.

Beanbag Toss - Make a game board poster and place on the floor. Place a ten in each space. Have two students each toss a beanbag onto the board. Students work together to find the sum of the numbers the beanbags land on. Alternatively, create a board on a piece of paper and have students toss counters.

30	10	4 tens	||
||||	20	50	2 tens
2 tens	3 tens	|||	10

Gifted and Talented Activities:

Two Digit 10 + More - Provide pairs of students with a deck of cards, using only the cards for 1–8. Have students shuffle their deck and divide the cards evenly between them. Each student flips over one card and places it in the middle, forming a two-digit number. The student who successfully adds 10 to the number first keeps both cards. For example, if one student flips over a 6 and the other flips over a 2, the two-digit number is 62. The first student to call out 72 (62 + 10) takes the 6 and 2 cards. Play until all cards are used or time is up

Two Digit 10 Fewer - Provide pairs of students with a deck of cards, using only the cards for 1–9. Have students shuffle their deck and divide the cards evenly between them. Each student flips over one card and places it in the middle, forming a two-digit number. The student who successfully subtracts 10 from the number fi rst keeps both cards. For example, if one student flips over a 3 and the other flips over a 7, the two-digit number is 37. The first student to call out 27 (37 − 10) takes the 3 and 7 cards. Play until all cards are used or time is up

Chapter 9 - Add Two Digit Numbers

STANDARDS
NBT.B.2a, NBT.B.2b, NBT.B.2c, NBT.C.4

- Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
- a. 10 can be thought of as a bundle of ten ones — called a "ten."
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- 1. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

Objectives:

- Add two numbers by adding the tens and adding the ones.
- Use a number line to add two numbers.
- Make a 10 to add a one-digit number and a two-digit number.
- Use place value to add two numbers.
- Choose a strategy to add two numbers.
- Solve addition word problems.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Word Problem Models - Divide students into groups of four. Give two students in each group some rods and give the other two students some cubes. The group works together to write an addition equation represented by their base ten blocks. Have students create a word problem that can be modeled by their equation and share with the class.

Sketching Sums - Give each student number cards 1 to 8 and have them use three cards to create a two-digit number and a one-digit number. Have students write an equation for the sum of their numbers and make a sketch of the problem, stating whether they make a 10 to add or not. Students can also work in pairs or small groups. Repeat with different numbers.

Gifted and Talented Activities:

U.S.A. - Using the numbers 1 to 50, number the states on the Map of The United States Instructional Resource. You may want to number states according to the order they became states. Project the map for the class to see. Have students find sums of pairs of states. Alternatively, have students choose two states they want to visit or have been to and find the sum.

Chapter 10 - Measure and Compare Lengths

STANDARDS

OA.A.1, M.A.1 M.A.2

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
- Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

Objectives:

- Order objects by length.
- Compare the lengths of two objects using a third object.
- Use like objects to measure length.
- Measure an object in different ways.
- Solve compare word problems involving length.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

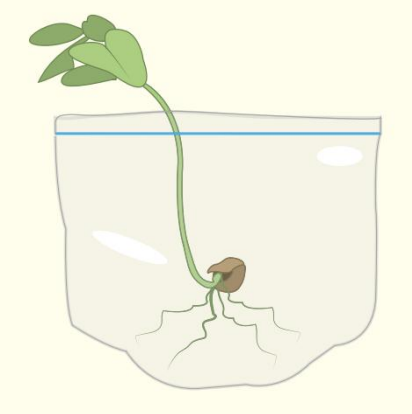
Activities:

Freeze - Cut varying lengths of construction paper strips and give one to each student. Students can mingle and move until you say “Freeze!” Students stop and form groups of three with students around them. Tell them either “longest to shortest” or “shortest to longest” randomly. Students line up in order based on their paper strips. Repeat several times.

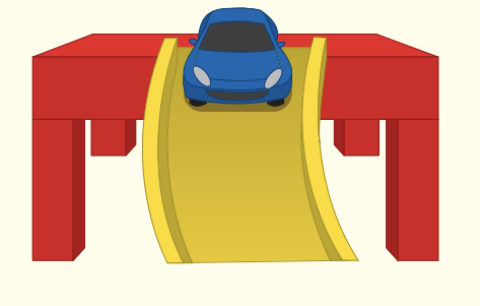
The Detective Sees - Post different length items such as sticky notes, notecards, construction paper (cut into strips), sentence strips, and string around the room. Then play with students “The Detective Sees…” by describing an item to students but not saying its name. Students will have to use the description to guess the item. Be sure to include length as part of your description. For instance, “The Detective sees an item that is shorter than the construction paper but longer than the sticky notes.” Repeat with different objects. Students can also draw objects on the board to use in comparisons.

Gifted and Talented Activities:

Plant Measurements - Discuss the life cycle of a plant. Have students each grow a bean in a bag and take weekly observations on how their plant grows. Have them measure the height of their plants with color tiles. Record growth each week. Compare with neighbors.



Car Lengths - Discuss the concept of force and motion with students. Set up an experiment involving a toy car going down a race track or ramp. Have students predict how far the car will go using certain units, like paper clips or color tiles. Conduct the experiment, then measure to see the results.



Chapter 11- Represent and Interpret Data

STANDARDS
OA.A.1, DL.A.1

- Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem
- Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Objectives:

- Make a tally chart to organize and understand data.
- Understand the data shown by a picture graph.
- Understand the data shown by a bar graph.
- Make picture graphs and bar graphs.
- Use data from graphs to answer questions.

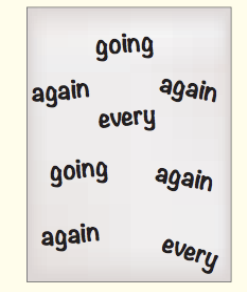
Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Roll and Tally - Have students make a tally chart with the numbers 1 to 6 as the categories. Then have students roll a die and keep track of how many times they roll each number on the tally chart. Once they have rolled 12 times, have them write a sentence about their chart. It can describe which number was rolled the most or which number was rolled the least.

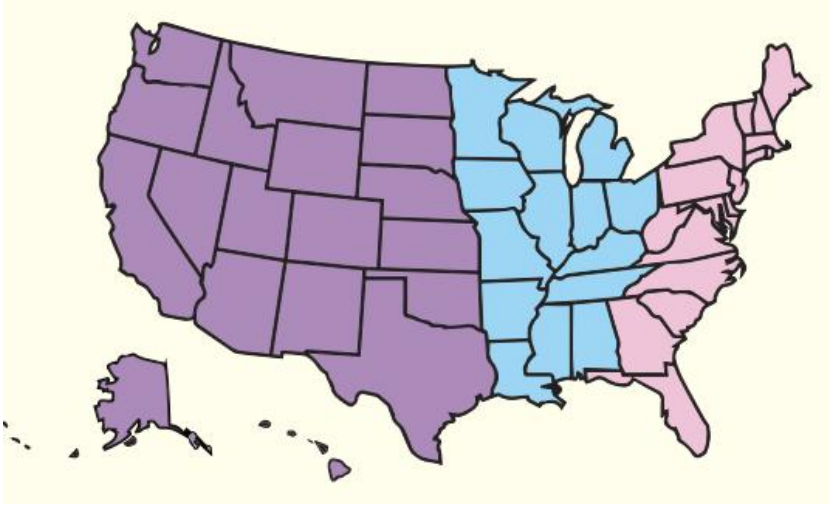
Roll, Write, and Tally - Provide students with 3 spelling or sight words on the board. Have them roll a die for each word to determine how many times they will write that word on a sheet of paper. Make sure students write the words in a scattered arrangement. Then have students trade their paper with a partner. The partner first tallies how many times each sight word is written and then they create a bar graph of the results.



Gifted and Talented Activities:

Class Favorites - Have students survey at least ten other students about their favorite sport, class, or animal. Gather simple stamps for students to use as their pictures in a picture graph of the results. Have them label the title, categories, and key on their picture graph.

State Regions - Divide a map of the United States into three shaded regions. Have students create a tally mark chart to keep track of the number of states in each region. Then have them create a bar graph or picture graph. Finally, have them write a question about the graph and include its answer.



Chapter 12 - Tell Time

STANDARDS
M.B.3

- Tell and write time in hours and half hours using analog and digital clocks.

Objectives:

- Use the hour hand to tell time to the hour.
- Use the hour hand to tell time to the half hour.
- Use the hour and minute hands to tell time to the hour and half hour.
- Use analog and digital clocks to tell time.

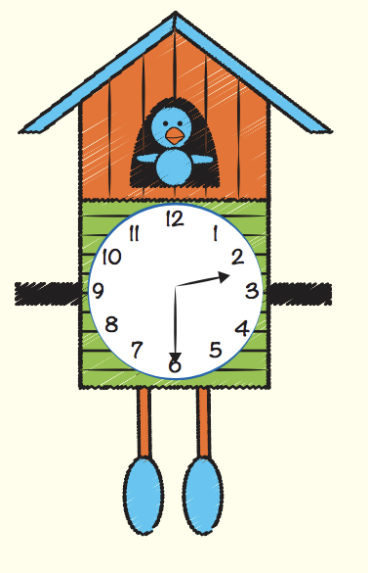
Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Partners in Time - Write times, such as half past 1, on several index cards. Draw clocks showing the times on separate index cards or use student clocks to model. Hand out one index card or clock to each student. Have the students walk around the room and find a partner who has the same time.

Cuckoo for Clocks - Show students pictures of cuckoo clocks. Then have students draw their own cuckoo clock. Provide students a time to show on their clock. Present on bulletin board.



Gifted and Talented Activities:

TV Schedules - Show students an example of a television schedule. Ask them to look for a half-hour show and model the times it begins and ends on clocks. Then have students make their own television schedule. Students record the day, channel, and time, and draw clocks indicating when a show begins and ends.

One Hour Before and After - Show students a time. Have them tell you what the time would be one hour later and one hour earlier. You can also have students draw digital and/or analog clocks showing the time.

Chapter 13- Two and Three Dimensional Shapes

STANDARDS
G.A.1, G.A.2

- Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess different attributes.
- Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, (Clarification: Students do not need to learn formal names such as "right rectangular prism.")

Objectives:

- Sort two-dimensional shapes.
- Describe two dimensional shapes.
- Join two-dimensional shapes to make another shape.
- Join two-dimensional shapes to make a new shape. Use the new shape to make a larger shape.
- Take apart two dimensional shapes.
- Sort three dimensional shapes.
- Describe three dimensional shapes.
- Join three-dimensional shapes to make another shape.
- Take apart three dimensional shapes.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

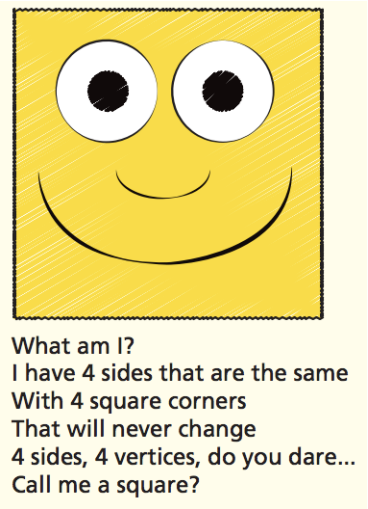
Activities:

Shape Collage - Draw a shape collage on the board, or create one on poster board with shape cut outs. Have students keep track of the shapes they see in a tally chart. Go over the number of shapes that are in the collage with students. Then have them create their own shape collages.

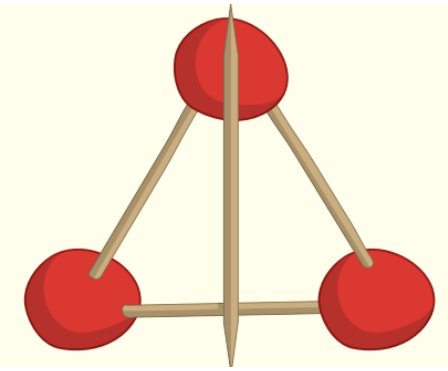
Follow the Shape Leader - Assign different shapes to students and have them walk around the room one at a time in an outline of their shape. Have other students guess what shape the student just outlined while walking. You can have other students walking behind the outline leader so they get a feel for what shape the leader is creating.

Gifted and Talented Activities:

Shape Poems - Go over descriptions of the different shapes with students. Have each student pick a shape, draw or trace it using a pattern or attribute block, and write a caption or short poem about it. Look for students to be detailed and creative.



Clay Shapes - Provide students with toothpicks or craft sticks and modeling clay. Then have them create shapes that can be taken apart into more shapes. Have them exchange shapes with a partner and then take the shapes apart. They can do this by adding more materials such as toothpicks to separate the different shapes.



Chapter 14- Equal Shares

STANDARDS
G.A.1, G.A.2, G.A.3

- Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
- Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Clarification: Students do not need to learn formal names such as "right rectangular prism.")
- Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Objectives:

- Identify equal shares in two-dimensional shapes.
- Identify shapes that show halves.
- Identify shapes that show fourths.

Mathematical Practices:

1. Make Sense of Problems and Persevere in Solving Them
2. Reason Abstractly and Quantitatively

3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make Use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Activities:

Equal/Unequal Musical Chairs - Place pictures of shapes with equal and unequal shares face down on chairs or around the classroom. Have students walk around the chairs while music plays. Once the music stops, students find and flip over a picture. If the picture shows equal shares, students raise a hand. If the picture shows unequal shares, students sit down. Place all cards face down and repeat.

Gifted and Talented Activities:

Hexagon Fractions - Give student pattern blocks. Have student find and draw the many and varied ways to create a yellow hexagon using pattern blocks. After drawing and coloring each way, have student record each part using fractions.

Fractions in Flags - Display or have students find images of flags that show halves, such as the flag of Poland or the flag of Ukraine. Create a chart of other flags that show fractional parts using thirds, such as the flag of Ireland or the flag of Jamaica. Can they find fourths? Fifths?

Perhaps they can poll the class to find flags that represent their heritage. Do they have equal parts?

Chapter 15- Money

STANDARDS
1.M.C.4, 1.M.C.5

- Know the comparative values of coins and all dollar bills (e.g., a dime is of greater value than a nickel). Use appropriate notation (e.g., 69¢, $10).
- Use dollars in the solutions of problems up to $20. Find equivalent monetary values (e.g., a nickel is equivalent in value to five pennies). Show monetary values in multiple ways. For example, show 25¢ as two dimes and one nickel, and as five nickels. Show $20 as two tens and as 20 ones.

Objectives:

- Understand that certain objects are coins and dollar bills, and that coins and dollar bills represent money.
- Identify the values of all U.S. coins and the one-dollar bill.

Activities
Money Sort- The teacher will give each table of 4-6 students a pile of plastic coins. The students will sort the coins onto 4 papers. Then students will count how many coins they have in each group.

Video: https://www.youtube.com/watch?v=MbtmucV-U2c

Gifted and Talented:

Adding Coins- Students will add up the values of a random assortment of coins (up to $1.00) using plastic coins to join like coins together first. Write an equation for each set of coins.

Shopping Time - Students will be given images of toys and books with price tags on them (up to $1.00). The students will have to use plastic coins to show the amount needed (exact amount) for the given object to purchase. A second student will act as the shopkeeper and count up the amount to make sure it is correct.