Bailey Education Group
1st Grade MATH
Tuesday, April 3 –April 13, 2018

Unit 14: Interpreting and using symbols in numeric expressions and comparisons.	**Days in Unit: 10**

Envision Math Alignment:

1.OA.7: Topic 1 – Lessons 5 and 8, Topic 2 – Lesson 10, Topic 4 – Lesson 1
1.OA.8: Topic 1 – Lesson 5, Topic 2 – Lesson 10, Topic 3 – Lesson 4, Topic 4 – Lessons 2, 3, 4, 5, 7, 8 and 9, Topic 5 – Lessons 1, 2, 3, 5, 6, and 7, Topic 6 – Lessons 1, 2, 4, 5, and 6
1.NBT.3: Topic 9 – Lessons 3 and 4

Unit Summary:

In this unit students apply their conceptual understanding of addition, subtraction, and comparison to interpret and write expressions and equations. It is important for students to make sense of the symbols involved, as well as knowing when to use them. A new concept to this unit is reasoning about whether or not equations are true or false. This unit also provides an opportunity for students to apply their understanding of the symbols while practicing their addition and subtraction strategies in different problem situations.

Focus Standards and *Specific Guidance for this Unit *(The MCCR Standard is listed along with specific guidance on what part of the standard to teach in this unit)*

0perations and Algebraic Thinking - 1.OA

D. Work with addition and subtraction equations.

1.OA.D.7. 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.

Teacher Notes: 1.0A.D.7 was addressed in unit 9. Students now use their understanding of the equal sign to determine whether or not equations are true or false.

1.OA.D.8. Determine the unknown whole number in an addition or subtraction equation relating 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 =0.

Teacher Notes: 1.0A.D.8 introduces the use of symbols to represent unknown quantities. Teachers may have been using some sort of symbol to represent unknown quantities in earlier units, but students to do so during this unit.

Number and 0perations in Base Ten - 1.NBT

B. Understand place value.

1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Teacher Notes: 1.NBT.B.3 is repeated in this unit to now include the use of mathematical symbols in expressing numeric comparisons. Correctly placing the < and > symbols is a challenge for early learners.

LEARNING OUTCOMES:

- Demonstrate understanding of the equal sign
- Use knowledge of fact families to solve addition and subtraction
- Use >, <, and = to compare two-digit numbers

LEARNING TARGETS:

- **1.OA.7.1** Decide if addition or subtraction number sentences are equal.
- **1.OA.7.2** Demonstrate understanding of the equal sign.
- **1.OA.8.1** Solve addition or subtraction equations by applying my knowledge of fact families.
- **1.NBT.3.1** Compare two, 1 digit numbers using symbols >,<, or =
- **1.NBT.3.2** Compare two, 2 digit numbers using symbols >,<, or =.
- **1.NBT.3.3** I can use <,>, or = to compare two digit numbers.

Unit Vocabulary:

- Equal Sign
- Equations
- Addition
- Subtraction
- True
- False
- Unknown Number
- Whole Number
- Ones Digit
- Tens Digit
- Symbols
- Model
- Number Sentences
- Demonstrate
- Fact Families
- Compare

Essential Questions:

- What does the equal sign mean?
- How can I determine if two sides of a given equation are equal?
- What strategies can I use to determine an unknown number?
- How can I use pictures to explain a number sentence?
- How can I use fact families to solve an addition or subtraction problem?

Unit 14: Interpreting and using symbols in numeric expressions and comparisons.
Suggested Instruction Time: 10 days

ONLINE INSTRUCTIONAL VIDEOS:

- Equal sign songs and videos

https://www.youtube.com/watch?v=M6Efzu2slgI

https://www.youtube.com/watch?v=3FDIXz0AFCA

https://www.youtube.com/watch?v=MFrwrh1gEfk&t=1s

https://www.youtube.com/watch?v=Vi9UkKsQieA

- True or false equal equations

https://www.youtube.com/watch?v=8KMTRqfkCMY

- Fact families introduction

https://www.youtube.com/watch?v=_2ma8v1GFV0

- Fact families chant

https://www.youtube.com/watch?v=0VL3xltXsIc

- puppet teaching fact families

https://www.youtube.com/watch?v=gT2Wdo6g-Rw&t=6s

- Fact families song

INTERACTIVE SMARTBOARD ACTIVITIES
(Use to introduce lessons daily and/or for technology centers):
Note: The students can take turns answering the questions and the teacher can also allow the student to maneuver the mouse and actually host the game.

- TTW use a counting game on the promethean board to review the standards of this unit

Online Games/Activities for:

Addition and subtraction with fact families-
http://www.topmarks.co.uk/number-facts/number-fact-families

https://www.ixl.com/math/grade-1/fact-families *Not very interactive but good for students to practice with*

https://www.turtlediary.com/game/fact-families.html

https://www.ezschool.com/play/math/create-fact-families-to-understand-the-relationship-between-addition-and-subtraction/268 *great

Comparing two-digit numbers with >, <, and =
https://www.education.com/game/less-than-greater-than/ *Great game! Kids will love!*

http://www.softschools.com/math/greater_than_less_than/alligator_greater_than_game/
Great game

http://www.sheppardsoftware.com/mathgames/earlymath/BPGreatLessEqualWords2.htm
Good game

Comparing equations with >, <, and =
http://www.crickweb.co.uk/ks1numeracy.html#simplescales2

http://www.math-play.com/math-racing-game-balance-the-addition-equation/balance-the-addition-equation-math-racing-game.html *Great for boys*

WHOLE GROUP ACTIVITIES:
(Instructional strategies, guided practice, independent practice)

Apples and Bananas-
Materials Needed:

- A piece of poster paper
- Yellow and red connecting cubes
- Apples and Bananas sheet https://betterlesson.com/lesson/resource/2356560/apples-and-bananas?from=resource_image

1. I gather the students in front of the displayed chart paper and start by drawing a big plate (circle) on the paper. I tell them that this morning I was really hungry and decided to eat some apples and bananas for breakfast. I cut them up into slices and put them into a bowl. I then used a big spoon and scooped some onto my plate. My spoon can only hold 7 slices of fruit.
2. I then tell them that I want them to imagine that I scooped 7 pieces onto my plate and that some of the slices were apples and some of them were bananas. Then ask them How many of each could I have? How many apples and how many bananas? Remind them that I have 7 slices in all.
3. I then write 7 in all on the chart paper above the big plate. Let them come up with a couple of suggestions (have cubes available for modeling). After a couple of examples, let the students know that there is more than one solution and that they need to find other ones than the two just modeled.

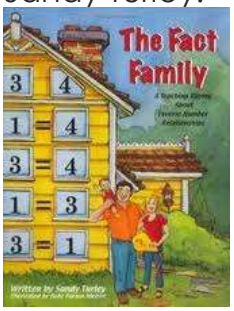
Extension:
Hand each student a copy of the 7 Apples and Bananas sheet. Allow students to work alone or in pairs and ask them to solve the problem. Have a bunch of red and yellow connecting cubes available (the colors allow for easier connection to apples and bananas).
Teacher notes - What You Are Looking For:
How do students record their work? Are they using pictures, manipulatives, numbers, or mental computations? How do they keep track of the total number of apples and bananas? How many combinations can each student find?

Wrap up:
Have the students bring their worksheet to the carpet and sit in front of the big poster that was used to start the lesson. Ask one of the students to share one of their solutions. As the student shares his/her solution (i.e. 4 apples and 3 bananas) others raise their hand if they found the same one. The students are making sense of quantities and their relationship in the problem. The students will see that if I have one less apple, I will need one more banana.
As each solution is shared, write it on the plate. You want the focus of the conversation to be on the combinations of 7 and not the recording method. Continue seeking new solutions. If someone repeats an already stated solution, point out where that specific one was recorded. Wrap up after you have a variety of solutions but not all of the possible ways. Let them know that you haven't found all of the solutions

Math in Literature-
Materials Needed:

- Book – *The Fact Family* by Sandy Turley
- Online read aloud here: https://www.youtube.com/watch?v=eQKCIcR-7N0

Start by reading "*The Fact Family: A Teaching Rhyme About Inverse Number Relationships*" by Sandy Turley.



I like to read this story because it easily relates mathematical fact families to real families.

- I then give each child 20 connecting cubes – use 2 different colors and give each child 10 of each (ex. 10 red & 10 blue). Write 4 + 5= __ on the board/chart paper.
- I then have the students use their connecting cubes to model how to solve the problem.
- Next, I write 5 + 4 = __ on the board. Again, I have the students use their connecting cubes to model how to solve the problem.
- I continue this activity by writing the two related subtraction sentences on the board (9-5=__ and 9-4=__).
- Ask students if they notice the pattern with the math sentences. Guide the discussion to

the understanding that there is a pattern between the three numbers in a fact family. In this lesson, children continue to build understanding of the relationship between addition and subtraction. It is important for first graders to discover a pattern or structure (MP7). This begins with recognizing that 5+4=9 and 4+5=9 (commutative property). As children create physical models to solve problems, use questions such as the following to deepen their understanding:

- How do you use cubes to show 4 + 5 = 9? (I start with 4 red cubes and add 5 blue cubes.)
- How do you know your subtraction sentence is a related fact of your addition sentence? (It uses the same numbers.)
- Why do you now have the same number of cubes you started with? (I took away the 5 cubes that I added to the starting number, so I undid the problem.)

Triangle Houses-
Materials Needed:

- Connecting cubes
- Worksheet options: https://betterlesson.com/lesson/resource/2671352/identify-related-facts_fact-family-houses-docx?from=resource_image
- Printout: https://betterlesson.com/lesson/resource/2966679/identify-related-facts_houses-ppt?from=resource_image

Draw a triangle on the board with the numbers 5, 4, & 9. Discuss how these numbers are a fact family, and just like our families they are related. Using the same methods as above, use 9, 1 & 10 and show how they are a related fact family. (Show PPT above if needed)

Put students in groups of 2 and have each student select a number between 1 and 10 to add. Using connecting cubes, have pairs continue model how to add the two numbers. Guide them to model the subtraction facts in the same family as well. Use this same strategy and guide pairs through several fact families, walking around to make sure that they understand the concept.

Independent Practice:
Have students complete the attached sheet where they build their own fact family houses. Students use the three numbers in the "roof" of the house to write the fact family. Students cut out the "roof" and the house and glue to paper. Then they write the corresponding fact families on the houses.

Where is My Fact Family?-
Materials Needed:

- Large Dominoes flash cards http://mathwire.com/numbersense/dominoflashcards.pdf
- Fact Family flash cards http://www.math-aids.com/Flash_Cards/Addition_Subtraction_Fact_Family.html
- Or addition and subtraction facts, sums to 12 flash cards http://www.helpingwithmath.com/printables/flashcards/fla0301addition02.htm

1. TTW Begin the lesson by reviewing the concept of a fact family.

2. Explain that a fact family consists of all of the addition and subtraction combinations that two numbers and their sum can have. For example, 1 + 2 = 3, 2 + 1 = 3, 3 - 1 = 2, and 3 - 2 = 1 make up a fact family.
3. TTW Write on the board three numbers that can form a fact family (e.g. 3, 4, and 7).
4. TTW Ask students to construct the fact family formed by the numbers. After a few minutes, have them compare answers with one another.
5. Call on volunteers to write down each of the four equations in the family. Make clarifications as needed.

Teacher to Model:

1. Direct attention to the large dominoes posted around the classroom. Let the class know that these dominoes will be involved in an activity.
2. Give each student an equation flash card. Explain that students will need to find the dominoes that match their equations.
3. Demonstrate the exercise by selecting a flash card, reading it aloud, then moving to its corresponding domino.

Guided Practice:

1. Give students about five minutes to find their dominoes. Once they finish gathering, there should be multiple students at each domino, with the exception of the 0 family domino.
2. Ask students how many facts they think are in a fact family. Have them look around at how many students are at each domino before they respond.
3. Explain that fact families usually contain four equations. When the addends of the family are the same, they contain two. The only exception is the 0 family, which only contains one.

Independent Practice:
Have each student select one or two of the dominoes in the room.
Ask students to copy down their dominoes on a sheet of paper and write down the fact families for those dominoes.
Enrichment: Advanced students can be asked to complete the second round of the exercise without talking. Doing so pushes them to find the correct domino without getting help from one another.
Support: Struggling students can be asked to find members of their fact families before searching for their dominoes. Once the family members are found and groups are formed, students can work together to look for the dominoes.

Additional activities and worksheets for fact families:
http://www.commoncoresheets.com/FactFamilies.php

http://www.busyteacherscafe.com/worksheets/math/factfamilies.pdf

http://www.teachthechildrenwell.com/factfamilies/factfamilyworksheet.pdf

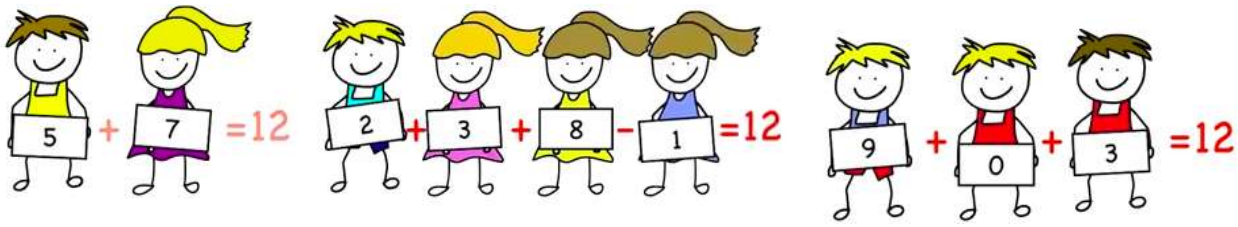
http://www.teachthechildrenwell.com/factfamilies/blankkids.pdf

http://www.tlsbooks.com/factfamiliesabcd1.html

Make the Number-
Materials Needed:

- Large number cards 0-10, one per student

Directions: Start by giving each student a number card: Next write a number card on the board. Students find other students with numbers that they can combine to make the number. The class will end up with several different combinations that equal the same number. Here is an example for the number 12:



Note: Teacher should designate spots in perhaps corners of the room where students can stand. Assign the starter person in each corner. Other students work together to make the designated number. Teacher will supervise, help, and scaffold as needed.

Twenty Tickets-
Materials Needed:

- 20 counters or linking cubes per pair of students
- pencil and paper

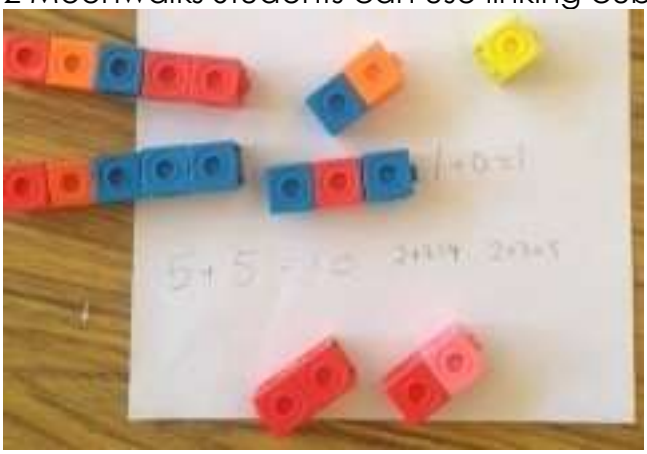
TTW give students this problem: *Bo bought 20 tickets to play games at Family Fun Night at his school. He wants to play each game at least once. He needs to use all of his tickets. How many times might he play each game? Find at least two ways he can do it.*

Game	Number of Tickets Needed
Ring Toss	1
Putt-Putt Golf	2
Soccer Kick	3
Moonwalk	5

When all pairs of students have had a chance to find at least one solution, the teacher can lead a whole-group discussion and record each solution as an equation on chart paper or the chalkboard/whiteboard/SmartBoard.

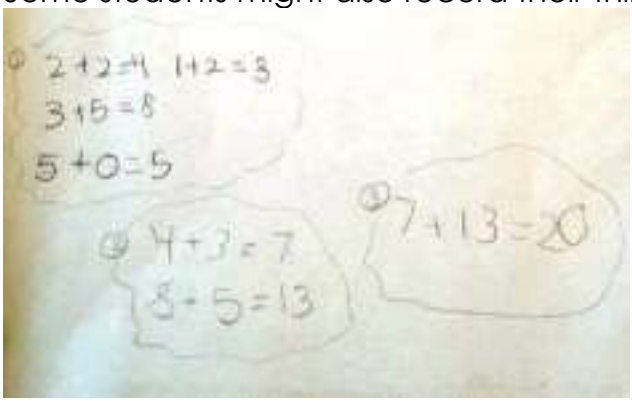
Note: The purpose of the task is for students to add and subtract within 20 (1.OA.1) and represent complex addition problems with an equation to increase their understanding of and flexibility with the equals sign (1.OA.7). There are multiple solutions, and each pair of students should find more than one. The students can use the counters or linking cubes to represent each ticket needed to do each game, but then they should be encouraged to draw a picture to represent their work so there is a record of their thought process. Students who are comfortable with symbolic representations can record their solutions using equations.
The problem can be differentiated by using either a smaller or larger number of tickets. An extension would also be to have the students find the greatest number of times the games could be played to still do all games at least once. Another would be to ask if they can play each game twice and justify their thinking and solution.

<u>Different Solution Examples Below:</u>
One solution using concrete objects is:
1 ring toss
3 Putt Putt Golf
1 Soccer Kick
2 Moonwalks Students can use linking cubes or counters to represent the required tickets.



One equation that represents this is:
1+0+5+5+2+3+2+2=20

Some students might also record their thinking using equations:

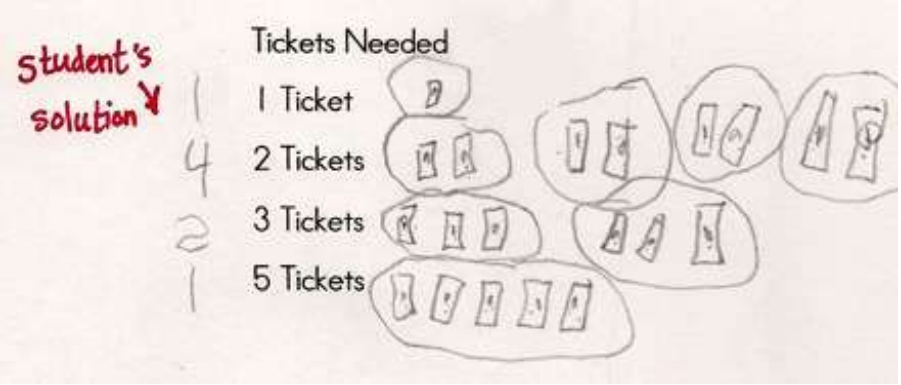


Another equation that represents this is
2+2+1+2+3+5+5+0=20

Another Solution: Starting with one of each

First, play each game once:
1+2+3+5=11
11 tickets are used. 20 - 11 = 9, so there are 9 tickets left.
One way to use the rest of the tickets is to play Ring Toss, Soccer Kick and Moonwalk again because
1+3+5=9
Ring Toss: 2
Putt-Putt Golf: 1
Soccer Kick: 2
Moonwalk: 2
We can write this solution as an equation in different ways:
1+1+2+3+3+5+5=20
or
1+2+3+5+1+3+5=20
or
2+2+6+10=21

Solution Drawing pictures:



An equation that represents this solution is
1+2+2+2+2+3+3+5=20

Balanced Equations practice-
Materials Needed:

- Counting cubes
- White boards and dry erase markers
- Virtual manipulatives can be found here: https://grade1commoncoremath.wikispaces.hcpss.org/file/view/Directions%20for%20Virtual%20Manipulatives%201.NBT.2.pdf/519489918/Directions%20for%20Virtual%20Manipulatives%201.NBT.2.pdf

TTW model simple equations for the students using manipulatives on virtual manipulatives link on smart board or use document camera. Ask the students to write the equaitons as you model them.

Provide direct instruction on the meaning of the equal sign. Guide the student to understand that the equal sign means "is equal to rather than a command to complete a computation.

Have the students decompose numbers, and record the results by writing equations of the form c = a + b.

Have the student put two cubes in each of his or her hands. Ask the student if each hand holds the same number of cubes. Guide the student to write the equation 2 = 2 to represent the equation he or she is modeling. Then, have the student put four blue cubes in his or her left hand and three red and one yellow cube in his or her right hand. Ask the student if each hand holds the same number of cubes. Guide the student to write the equation 4 = 3 + 1 to represent the equation he or she is modeling.

Show the student pairs of equations such as 3 + 2 = 5 and 5 = 2 + 3. It is also important to show the student equations such as 2 + 3 = 4 + 1 and 7 = 7. Make explicit the meaning of the equal sign in the context of such equations.

Using four different colors of cubes, model two addends on each side of the equal sign and how the sum of each side can be equal (e.g., 4 (red) + 2 (yellow) = 3 (green) + 3 (blue)).

Questions to elicit thinking:

1. Why do you think this equation is true (or not true)?
2. What about this makes it not true (or true)?
3. Can you tell me what you know about the equal sign? What does it mean?

Note: Model correct use of the equal sign with the students. Provide direct instruction on the meaning of the equal sign. Guide the students to understand that the equal sign means "is equal to" rather

Increasing Rigor Problems-
Materials Needed:

- Dry erase boards and markers

Why is 3 + 4 = 7 - 5 false? Another student said that it is true because 3 + 4 = 7. What is wrong with their reasoning?

Do you think 9- 2 - 3 = 10 - 3 - 2 is true or false? How do you know?

Show the student the equation 3 + 2 = 4 + 1, and ask him or her to examine the addends on each side of the equation. What happens to the first addend on each side of the equal sign?

What about the second addends? Did you notice that if you take one from the two and add it to the three, you get '4 + 1'? When you have a sum such as 3 + 2, can you always increase the first addend by one and decrease the second addend by one and get the same sum?

Encourage the students to solve equations with larger numbers such as 34 + 6 = ___ + 34 using the Commutative Property. Encourage the students to find the missing addend in equations such as 17 - ____ = 9.

Have the students write his or her own equations that are true. Encourage the student to use two addends on each side of the equal sign.

True or False Equations-
Materials Needed:

- True or False Equation Cards
  http://www.k-5mathteachingresources.com/support-files/true-or-false.pdf

Children work with a partner. Take turns to turn over a card and decide whether the number sentence is true or false.

Place the card on the correct side of the board. Use a math talk sentence to explain your thinking.

Materials: equation cards, True or False Board
I think this number sentence is false because ……..
I think this number sentence is true because ……..

Note: This can also be used as a center.

Guess Which is Greater-
Materials Needed:

- Number line http://www.smartfirstgraders.com/support-files/numberlines.pdf

Many number sense activities give kids a chance to explore and compare numbers; here is a chance to let kids learn to do this mentally. Get a number line, but don't show it to the child yet. Write down two numbers that can be found on the number line. Have the child "guess" which number is greater. Then let the child look it up on the number line to check. This is a fun way to begin working with larger numbers, as the "guessing" takes the expectation out of them having to know the answer, but gives them practice predicting which number is larger.

Hundreds Chart Search: Look together at a hundreds chart. Say the name of a number between 1 and 99 and say, "My number is 43. What is greater?" Have the child answer the question, then switch so he can pick the next number: "My number is 22. What is less?" This game can be made more fun by keeping score for each right answer, and by the adult occasionally getting an answer wrong! (For more advanced kids, you can ask, "What is 2 greater? What is 10 less?")

Greater than War-
Materials Needed:

- Deck of cards for each partner group (or number cards)

Play with 2 players. Remove the face cards from a regular deck of cards. Explain that Aces=1.

Give each player 1/2 of the deck. Both players turn over the top card.
The one with the higher number should say, for example, "6 is bigger than 2" (or "6 is greater than 2"), then takes both cards. Repeat until the decks are used up, then you can turn the cards over and play again. The one with the most cards wins--or you can just keep turning your cards over and play indefinitely.
"War" is one of the more popular 1st grade math games because it is so easy to play, and also because it can be modified in so many ways. This version works on comparing numbers, but you can also add the numbers together, subtract them, and in a few years even multiply them. Keep coming back to this game; it's a jewel!

Secret Number-
Materials Needed:

- Flash cards of 2 digit numbers

You, the caller, will think of a number from 1-20. Say, "My number is greater than ---". Have the child guess the number. "It's less than ---". Guess again. Keep going until the child guesses the number.

NOTE: Children at this age will have a hard time keeping the sequences straight in their head. It is helpful to play this with a number line in front of you, so you can mark off the numbers that are guessed and point to the greater-than or less-than points.
If the child wants to be the caller, be aware that this is a more challenging role than guesser. Bring in another player to be the guesser, and you can help coach the caller.

One Up or One Down-
Materials Needed:

- Playing cards, without face cards, one deck per partner group

This is a simple 2-person card game, and is one of the more challenging (but quite fun!) 1st grade math games. All you need to play is a regular deck of cards with face cards removed. The goal is to get rid of your cards before the other player. To play, deal each player 5 cards. Put the rest of the deck face down in the middle. Turn over one card and set it next to the face-down pile.

To play, both players will try to be the first to play one of their cards on the one in the middle. They can play if their card is one higher or one lower than the card on the table. For example, if an 8 is showing on the table, a child can put either a 7 or a 9 from their hand on that card. Every time you play a card, you need to pick up another card from the face-down pile. Aces can be either a 1 or an 11. If an ace is showing on the table, you can play either a 2 or a 10 on the ace.

This game calls for a lot of flexibility on the part of the players, since the number in the middle is always changing, and kids have to readjust for which numbers are one up or one down. Generally, though, if first graders are playing against each other, the game moves relatively slowly and is manageable. It helps in early stages for an adult to coach kids along as they are

learning this game: "Does anyone have a 9 or a 7? Who has a 10 or a 1?" Note: if nobody has a playable card, they turn over another card from the deck and keep playing. It helps to be quick: only one person gets to play on that card before the number changes!

Accommodation: Print out a number line , and keep a supply of shelled peanuts, dry beans, or other counters for counting when necessary. Use these as tools when necessary to help children succeed with "greater than/less than" problems.

MINI LESSONS/CLOSURE ACTIVITIES:

Math Journal-
Have students get their math journal and identify the two missing related facts in the following fact family:
4 + 9 = 13
13 - 4 = 9
Option: Have students draw a fact family house and give them only the numbers 4, 9, and 13. Have students write all 4 equations for that fact family.

Snack Solvers-
Give kids two stick pretzels and a handful of Cheerios. Tell them to put Cheerios in two piles, separated a little distance away from each other. Count the Cheerios. Which is more? Use the pretzel sticks to make a <, >, or = and put the symbol in between the piles of Cheerios. Remind children that the hungry "big mouth" side faces towards the bigger pile of Cheerios.

Greater Amounts of Stuff-
Try this no-prep activity to practice comparing numbers at home or at school: "How many windows in this room? How many in that room? Which number is greater?" Compare numbers of chairs, books on desks, posters in two rooms, plates in the dishwasher vs. plates in the cabinet, toys on the floor vs. toys on the shelves, peas on my plate vs. peas on your plate, etc.

Math Journal-
Materials Needed:

- Download printable option - https://betterlesson.com/community/document/1975415/1-oa-7-math-journal-day-1-doc

Draw pictures on the balance scale to make the two sides equal. Be able to explain what you drew and share your picture.

Greater Words-
Try greater than/less than with words. Pick two words, such as two kids' names. Write both names. Count the letters in each name and put the correct symbol (<, > or =) in the middle. The skills kids learn in this multi-level activity will make comparing numbers a breeze.

(You can do "word" number sense activities with other skills, too. What words are odd? Which are even? How many letters are in your friends' names? What about when your names are added together?)

Ma**niac Math-**
Make signs with numbers on them, up to the numbers you want kids to practice. Tie strings to the signs and hang them around kids' necks. Say a math problem and then an action, such as, "10-3, hop in a circle one time." The child who is wearing that number has to do the action.

This game is so much fun, kids will have no idea they are also improving their number sense skills!

You could mix up the problems, including addition or subtraction, or even comparing numbers. Have several fun actions in mind, such as jumping jacks, running once around the room, touching toes ten times, and so on. Your kids will love this game.

Show Me Math-
Another game with the same appeal as the one above involves all the kids doing the same thing. To play, say an action and then a math problem. The kids do the action as many times as the answer. For example, "Jump 3+8." All of the kids would need to jump 11 times.

Lesson Activity Based Closure
TTW use one of the activities provided to close out the lesson to make sure each student can talk about what they have learned today. It is important for the teacher to model a problem at the end of the lesson and let one students model the process to check for understanding.

40 Ways to Leave a Lesson-
https://docs.google.com/file/d/0B-0npvI9xzTBMGs1SUUzeEN3RU0/edit

SMALL GROUP/CENTER ACTIVITIES:

http://mrsjohnsonsfirstgrade.blogspot.com/2011/05/math-center-games.html

http://www.k-5mathteachingresources.com/support-files/true-or-false.pdf

https://www.pinterest.com/staceyhicks1/greater-than-less-than/

https://www.pinterest.com/commoncorecore/1-0a-8/

http://www.ilclassroomsinaction.org/uploads/2/6/0/8/26089560/1stgradeunit.pdf

https://www.pinterest.com/commoncorecore/1-nbt-3/

ADDITIONAL ONLINE RESOURCES (Bellwork):
Worksheets-
http://www.k5learning.com/free-math-worksheets/first-grade-1

http://mathworksheetwizard.com/grade1/grade1numbers.html

http://www.mathworksheets4kids.com/activities/1st-grade.php

http://www.tlsbooks.com/firstgrademathworksheets.htm

Free printable number cards:
http://www.activityvillage.co.uk/number-flash-cards-1-30

https://www.teacherspayteachers.com/Product/1-120-Flashcards-freebie-317022 * Free but need to download
or
http://www.mediafire.com/file/a67e7r40m2omdy6/Flash+Cards_Numbers+0-120.pdf

Free number word printable flashcards:
https://www.havefunteaching.com/flash-cards/math-flash-cards/numbers-word-flash-cards-0-to-100/

Free printable ten frames:
http://www.mathwire.com/templates/tenframemat.pdf

Free printable dominoes:
http://www.dltk-cards.com/dominos/

Free printable spinners:
http://cte.sfasu.edu/wp-content/uploads/2012/09/Templates-for-Spinners.pdf

Free printable hundreds charts:
https://www.superteacherworksheets.com/hundreds-chart.html

Virtual manipulatives can be found here:
https://grade1commoncoremath.wikispaces.hcpss.org/file/view/Directions%20for%20Virtual%20Manipulatives%201.NBT.2.pdf/519489918/Directions%20for%20Virtual%20Manipulatives%201.NBT.2.pdf

Practice for Math Fact Fluency Activities:
http://www.interventioncentral.org/teacher-resources/math-work-sheet-generator

http://www.abcya.com/math_facts_game.htm

http://www.playkidsgames.com/games/mathfact/mathFact.htm

http://www.factmonster.com/math/flashcards.html

http://www.fun4thebrain.com/addition.html

http://www.mathplayground.com/index_addition_subtraction.html

http://www.math-drills.com/addition.shtml

http://mrshillsallstars.weebly.com/addition-without-regrouping.html

https://www.pinterest.com/janwray/double-digit-addition-subtraction/

http://www.theteachersguide.com/twodigitadditionworksheets.htm

SUMMATIVE ASSESSMENT RESOURCES:

http://commoncoretasks.ncdpi.wikispaces.net/First+Grade+Tasks

http://illuminations.nctm.org/Activity.aspx?id=3566

https://www.orglib.com/1.oa.6-worksheet-as-assessment-viewTestQuestions_0d1520c2bb_8521a3a648b6468f8e96c9d0f0e9af01_265.html

http://www.internet4classrooms.com/grade_level_help/test_taking_assistance_first_1st_grade.htm

FORMATIVE ASSESSMENTS:
http://www.ehow.com/about_5419008_types-formative-assessment.html

http://www.edutopia.org/resource/checking-understanding-download

http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html

DIFFERENTIATING RESOURCES:
https://daretodifferentiate.wikispaces.com/Learning+Centers

http://www.internet4classrooms.com/common_core

http://www.k-5mathteachingresources.com