Lesson Plan by Whitley Starnes

Lesson: Compare and Arrange Whole Numbers up to 100 in Numerical Order

Length: 30-40 minutes

Age or Grade Level Intended: Second Grade

Academic Standard:

2.1.5 Compare whole numbers up to 100 and arrange them in numerical order. (Core Standard)

Performance Objectives:

When given whole numbers up to 100 in random order, the second grade students will arrange the whole numbers in numerical order with 100% accuracy.

When given two whole numbers from 0 to 100, the second grade students will compare the two whole numbers using the phrases “greater than” or “less than” with 100% accuracy.

Assessment:

To assess whether or not the second grade students are able to arrange whole numbers up to 100 in numerical order, I plan to give the students a number grid that shows all the whole numbers up to 100, but in random order. Then, I will have the students cut out each whole number and paste each whole number in numerical order on a blank number grid.

To assess whether or not the second grade students are able to compare whole numbers from 0 to 100, I plan to have the students verbally compare ten sets of two whole numbers that I will show on flashcards. The students’ verbal response to me should include one of these phrases:

___ is greater than ___. (25 is greater than 15.)
___ is less than ___. (30 is less than 55.)

Advance Preparation by Teacher:

Classroom Whiteboard, Classroom Size Hundreds Chart, Number Cards, Tape, Number Line above chalkboard, 2 meter sticks with flashcard covers over one of the ends, sticky note, pencil, mini whiteboards, dry erase markers, whiteboard erasers (sock), class list
Procedure:

**Introduction/Motivation:**

The teacher will present a problem that the students will need to help solve. (Gardner: Visual/Spatial, Logical Mathematical, Bodily Kinesthetic)

**Problem:**
The teacher will put up a classroom size Hundreds Chart on the board where everyone can see. The problem is that the Hundreds Chart has some numbers missing.

**Solve:**
In order to solve this problem the teacher will give each student a card with one of the missing numbers on it and have them go up to the Hundreds Chart one by one and fill in the Hundreds Chart.

**Step-by-Step Plan:**

1. **Counting Routine:** The students will go through their counting routine using the newly completed classroom size Hundreds Chart. (Gardner: Bodily Kinesthetic, Visual/Spatial, Verbal/Linguistics)

   First, the students will count by 10s all the way to 100 and clap their hands on 10, 20, 30, 40, 50, 60, 70, 80, 90, 100.

   Then, the students will count by 5s all the way to 100. They will continue to clap their hands on the 10s and will also put up a high five on 5, 15, 25, 35, 45, 55, 65, 75, 85, 95.

   Finally, the students will count by 1s all the way to 100. They will again clap their hands on the 10s and put up a high five on the 5s.

2. **Math Game: Number Line Squeeze:** This math game will be done up front and the students will be sitting in their special spots on the floor. (Gardner: Visual/Spatial, Logical Mathematical, Bodily Kinesthetic, Verbal/Linguistic, Interpersonal)

   Purpose of the Math Game is to help students compare whole numbers up to 100.

   First, the teacher will need to pick two volunteers to be the pointers. The pointers will hold up their stick with the flashcard end on top. One pointer will cover the 0 and the other will cover the 100 on the classroom size number line that is above the chalkboard.

   Next, the teacher will write down a number that is between 0 and 100 on a sticky note.

   Then, the students will have to guess what the mystery number is. As each student guesses, the pointers will move the sticks closer and closer together, “Squeeze”. By doing this, the students will see that they have limited the choices as to what the mystery number could be.
Furthermore, the teacher should allow the students to tell which pointer should move. If the mystery number is greater than a guessed number, then the pointer on the left will have to slide right on the number line. If the mystery number is less than a guessed number, then the pointer on the right will have to slide left on the number line.

Finally, once the students have guessed the mystery number play the game again and allow new volunteers to be the pointers.

As the students get familiar with the game, the students can take the teachers role and pick the mystery number. Taking the teacher role will allow the students to practice saying “greater than” or “less than.”

*** Below is an EXAMPLE of how the game will work. ***

The Number on the Sticky Note is 45.

Student: “Is the number 32?”
Teacher: “The number is greater than 32.”

The pointer covering the zero will slide the stick right on the number line to cover the number 32 because the mystery number must be between 32 and 100.

Student: “Is the number 55?”
Teacher: “The number is less than 55.”

The pointer covering the 100 will slide the stick left to cover the number 55 because the mystery number must now be between 32 and 55.

Continue the procedure until the students guess the mystery number.

3. Mini Whiteboard Activity: This activity will be done up front and the students will sit in their special spots on the floor. (Gardner: Verbal/Linguistic, Visual/Spatial, Intrapersonal, Logical Mathematical)

While the students are getting their sock (eraser) and dry erase marker, the teacher will pass out the mini whiteboards to each student.

During this activity, the teacher will be asking a series of math questions and the students will write their answers on their individual whiteboards.

When showing the teacher their answer, the students will turn their whiteboard over when the teacher says, “Ready, Flip” and set it on their lap and hold it like you would a poster so that the teacher can see everyone’s answers.

The students should only be looking at their own whiteboard. The teacher will have to remind the students that this is a time for the teacher to see what each of them know and that if they make a mistake it is okay because it will help the teacher know what he or she needs to work on before they take a test over the material that is being covered.
**Math Questions to ask students:** Using the class list, the teacher should keep a tally of those students who write an incorrect answer. Also, the teacher will go over each question and answer after all the students have showed their answers.

Q: What number comes before 45?
A: 43

Q: What number comes before 22?
A: 21

Q: What number comes before 53?
A: 52

Q: What number comes after 66?
A: 67

Q: What number comes after 76?
A: 77

Q: What number comes after 98?
A: 99

Q: What number is between 88 and 90?
A: 89

Q: What number is between 11 and 13?
A: 12

Q: What number is between 57 and 59?
A: 58

Q: Write a number that is greater than 60.
A: 61

Q: Write a number that is less than 20.
A: 19

Q: Write a number that is greater than 25.
A: 26

Q: Write a number that is less than 63.
A: 62

***If time allows, the teacher can create more math questions that involve greater than and less than***
Closure:

The teacher will explain to the students that tomorrow they will be given a Hundreds Chart that has the numbers all mixed up and they will have to cut out each number and paste the numbers in numerical order on a blank Hundreds Chart. (Gardner: Intrapersonal, Visual/Spatial, Bodily Kinesthetic, Logical Mathematical)

Also, while the students are making their individual Hundreds Chart, the teacher will be calling each student up to have them compare two numbers by saying “greater than” or “less than” just like in the Math Game: Number Line Squeeze. (Gardner: Visual/Spatial, Verbal/Linguistic, Logical Mathematical)

Adaptations/Enrichment:

Student with Learning disability in reading comprehension:

The student will say out loud the number that he or she chooses during the Math Game: Number Line Squeeze and during the Assessment so that the teacher can watch to see if the student flips his or her numbers around. For instance, the student may say “21” when really the number is “12.”

Student with ADHD:

The student will sit in his or her assigned special spot on the floor during the lesson. The special spot will be up close and near the teacher.

Student with Gifts and Talents in Creativity:

The student will take the teacher role during the Math Game: Number Line Squeeze.

Self-Reflection:

Did I meet a variety of learning styles? Did students understand my directions? Did my lesson meet all of my objectives? Were students able to complete each part of my objectives? What parts of the lesson went well? What parts of the lesson did not go as well? How will I improve my lesson for the next time I teach?