**Number Bingo**

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| In this lesson, students strategically create and order two-digit numbers on their game boards to develop the concept of place value. |

**NC Mathematics Standard(s):**

**Understand place value.**

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

**Additional/Supporting Standards:**

**Extend and recognize patterns in the counting sequence.**

**NC.1.NBT.1** Count to 150, starting at any number less than 150.

**NC.1.NBT.7** Read and write numerals, and represent a number of objects with a written numeral, to 100.

**Understand place value.**

**NC.1.NBT.2** Understand that the two digits of a two-digit number represent amounts of tens and ones.

• Unitize by making a ten from a collection of ten ones.

• Model the numbers from 11 to 19 as composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

• Demonstrate that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or

nine tens, with 0 ones.

**Standards for Mathematical Practice:**

* 1. Make sense of problems and persevere in solving them.
  2. Reason abstractly and quantitatively.

1. Model with mathematics.
2. Use appropriate tools strategically.
3. Attend to precision.

**Student Outcomes:**

* I understand the counting sequences of numbers 0-100.
* I understand the position of a numeral within a number changes its value.
* I understand that the two digits of a two-digit number represent amounts of tens and ones.
* I can use mathematical words to compare the values of two numbers.

**Materials:**

* Number Bingo game board
* Number Cards (0-9) or two 10-Sided Polyhedral Dice
* Hundred Boards

**Advance Preparation**:

* Reproduce game boards.
* Laminate or place game boards in protected sleeves.
* Reproduce a deck with two sets of cards numbered 0-9.
* The teacher needs to assess the students’ mathematical understanding of the values of two digit numbers.

**Directions:**

1. Distribute hundred boards to students. Have students find the number 46 and 64 on hundred boards.
2. Ask:

* What do you notice about these numbers?
* How many tens does each number have and how do you know that?
* Which number is greater and how do you know that?

1. Continue with 2 other pairs of numbers such as 57 and 75, then 19 and 91.
2. Help students focus on the idea that changing position of the numbers in the tens and ones place changes the value of the number.
3. Students can play Number Bingo with a small group or whole class with each student given a game board.
4. A student or the teacher will roll two dice or pull two number cards at the same time to generate two digits. For example: a 2 and an 8 could make 28 or 82.
5. Students will decide which of the numbers will be written on their game boards in the appropriate row and the numbers must be written in order from least to greatest in each row. Numbers can only be used once on the game board. Note: Each row of the game board covers 20 numbers (0-19, 20-39, 40-59, 60-79, 80-99). The small numbers were placed on the game board to help children with the order of the numbers. The small numbers may be removed for children that do not need the assistance.
6. Continue rolling the dice or pulling number cards until a winner is proclaimed. The goal is to get 5 numbers in a row on their Number Bingo game board in the fewest turns as possible.

This game can also be modified so students can only win if they have:

* 5 in a row vertically
* 5 in a row horizontally
* 5 in a row diagonally

1. Bring the class back together for a discussion. Show students a game board that has 4 numbers filled in a row.

Example: 21, 25, 32, 34, blank square

Show the digits 3 and 8.

Ask: What two numbers could we make?

For this game which is the best number to make? Why?

1. Give another situation if time permits.

**Questions to Pose:**

Before:

* What do you notice about these numbers?
* How many tens does each number have and how do you know that?
* Which number is greater and how do you know that?

During:

* Why did you choose to use that number?
* What are the two numbers that you can make with the 2 numbers rolled/pulled?

After:

* What two numbers could we make?
* For this game which is the best number to make? Why?

**Possible Misconceptions/Suggestions:**

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| **Possible Misconceptions** | **Suggestions** |
| Students cannot make the two numbers from the 2 numbers rolled or pulled. | Have students to work with partners.  Have students to write the numbers on a white wipe-off board.  Have students to build the two numbers that can be formed with some type of groupable manipulatives so children can compare the 2 numbers.  Have students to locate the 2 numbers on a hundred board. |
| Students cannot compare numbers up to 100. | Have students use number cards for numbers within the range of their understanding, such as numbers up to 50.  Have students draw 1 number card so students will compare numbers 0-9.  Have students to use 100 boards so students can visually compare the values of the numbers. |

**Special Notes:**

This game is played after students have an understanding of place value for tens and ones and the sequence of numbers less than 100.

**Solutions:**

Students’ finished game boards will vary.

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| **0** | **1** | **2** | **3** | **4** |
| **5** | **6** | **7** | **8** | **9** |
| **0** | **1** | **2** | **3** | **4** |
| **5** | **6** | **7** | **8** | **9** |

