(2.1) **Number, operation, and quantitative reasoning.** The student understands how place value is used to represent whole numbers	**2.1C:** The student is expected to use place value to compare and order whole numbers to 999 and **record the comparisons using numbers and symbols** (<, =, >).

Materials: Number cards to 999. Symbol cards for "greater than," "less than," and "equal to."

Procedure: The student will look at pairs of number cards and then determine "greater than," "less than," or "equal." Pairs of numbers should vary in complexity, in order to discover more about the student's understanding of place value (e.g., 405 and 450; 676 and 767; 831 and 841; 308 and 229). Also use pairs of numbers that are equal.

Place two number cards in front of student. Vary the placement of numbers so the smaller number is not always on the left or right.

Point to the number that is greater. (Student points)
Point to the number that is less. (Student points)

Choose the correct symbol to represent the relationship between the numbers.

How would you use a symbol to compare these two numbers?

Record correct and incorrect responses below.

Check Student's responses:

1. Numbers _____ & _____ greater | less | equals
   Response: Correct | Incorrect Symbol: Correct | Incorrect
2. Numbers _____ & _____ greater | less | equals
   Response: Correct | Incorrect Symbol: Correct | Incorrect
3. Numbers _____ & _____ greater | less | equals
   Response: Correct | Incorrect Symbol: Correct | Incorrect
4. Numbers _____ & _____ greater | less | equals
   Response: Correct | Incorrect Symbol: Correct | Incorrect

Repeat this task with other numbers as needed.

Notes:

Possible interpretations, issues for follow up, and implications for instruction.	**2.1.C:** Use place value to compare whole numbers to 999 using numbers and symbols

This task requires students to use their understanding of place value to compare the value of numbers. Pay attention to the student's errors, if any, and plan further questions and teaching strategies to address these errors.

- There may be one place value that consistently produces errors (e.g., student chooses the number with highest ones digit, rather than hundreds digit). A teaching strategy to address this issue would be to identify the value of each numeral and use numbers that vary greatly by hundreds (e.g., 109 and 705). The student may recognize that 700 is much greater than 100 and will notice that even though the "9" in the ones place is greater than the "5" (also in the ones place), then that does not mean 109 is the greater number.

- The student may respond that 405 and 450 (for example) are equal. In this example, the student demonstrates confusion about place value and its meaning. A teaching strategy would be to use base ten blocks to show the difference between the two numbers and use the blocks to help the student determine which is greater.

- The student may have difficulty determining which is greater when only the tens numeral is changed. A teaching strategy might include using base ten blocks to compare differences in the value of the two numbers.

- If the student demonstrates confusion with the symbols, a teaching strategy might be to provide more practice using the symbols with numbers with obvious differences (like 111 and 999). This will allow the student to focus on choosing the correct symbol, rather than having to focus on the comparison as well (e.g., 5 and 10, 100 and 500, etc).