Comparing Numbers

Reporting Category   Number and Number Sense

Topic   Comparing two whole numbers

Primary SOL   3.1   The student will

c) compare two whole numbers between 0 and 9,999, using symbols (>, <, or =) and words (*greater than, less than,* or *equal to*).

Related SOL   3.1a

Materials
- Number Cards (attached)
- Recording Sheet (attached)
- Place Value Mat (attached)
- Number Line Graphic Organizer (attached)

Vocabulary
greater than, less than, equal to, compare

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Display a number line with various randomly chosen numbers on it. Have students determine whether each number is greater than, less than, or equal to the other numbers, as shown by its position on the line in relation to the other numbers.

2. Group students into pairs. Direct one student in each pair to write down a two-, three-, or four-digit number and show it to his/her partner. Direct the partner to create a number that is greater than, less than, or equal to the written number.

3. Have students play the Place Value Game. Introduce the game by reviewing place values of whole numbers. Explain that the object of the game is to build the largest four-digit number. Give each student a set of Number Cards and a copy of the Place Value Mat. Group students into groups of three, and give each group a copy of the Recording Sheet. Have group members shuffle their sets of number cards together (each group should have 27 cards) and then draw numbers to decide who goes first. Player 1 draws a card and chooses a column in which to place it on his/her place value chart. Once a card has been placed, it cannot be moved. Remind students that each player is trying to build the largest four-digit number they can. Player 2 then draws a card and chooses a column on his/her place value chart in which to place it. Player 3 then takes a turn. At this point, discuss strategies that the students are using to choose the columns. These can be displayed for students to think about as they play the game. Have students continue play until each player has built a four-digit number and verified which of the group's numbers is the largest. Highlight the mathematics used in the game. At the end of the game, have students share their strategies and talk about what happened when they tried someone else's strategy. Have each student record his/her group's three numbers from smallest to largest on the Recording Sheet and place the proper symbol between them. The player

with the largest number wins one point for this first round. Play continues until one player has a score of 10.

Assessment
- **Questions**
  - o Which symbol is used to show *greater than*?
  - o What makes two numbers equal to one another?
- **Journal/Writing Prompts**
  - o Explain what makes a number greater than another number.
  - o Explain why a four-digit number is always greater than a three-digit number.
- **Other**
  - o Write two-, three-, and four-digit numbers on the board, and have students write numbers that are greater than and less than the numbers presented, using the correct symbol (> and <).

Extensions and Connections (for all students)
- Have students formulate their own "greater than," "less than," and "equal to" statements about the location of specific places on a map, using symbols and terms.

Strategies for Differentiation
- Have students use the Number Line Graphic Organizer.
- Have students underline the specific digits to look at when determining whether a number is greater than, less than, or equal to another number (e.g., 2,<u>5</u>67 > 2,<u>3</u>08)

Number Cards

Copy on card stock, and cut apart on the dotted lines.

1	2	3
4	5	6
7	8	9

Recording Sheet

Name: _____ **Date:** _____

Record each number, smallest to largest, and then place the symbol >, <, or = in each circle.

Round	4-digit number	Comparison	4-digit number	Comparison	4-digit number	PLAYERS 1 Points	PLAYERS 2 Points	PLAYERS 3 Points
				Name→				
1	____	◯	____	◯	____			
2	____	◯	____	◯	____			
3	____	◯	____	◯	____			
4	____	◯	____	◯	____			
5	____	◯	____	◯	____			
6	____	◯	____	◯	____			
7	____	◯	____	◯	____			
8	____	◯	____	◯	____			
9	____	◯	____	◯	____			
10	____	◯	____	◯	____			
				Total Points→				

Place Value Mat

thousands	hundreds	tens	ones

Number Line Graphic Organizer