

WHAT PLACE ARE YOU?

Grade Level: Fourth Grade

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Length of Unit: 6 lessons

I. ABSTRACT

The purpose of “What Place Are You?” is to integrate the Core Knowledge math sequence with hands on learning activities. This is a review and continuation unit of place value learned in earlier grades. This unit will work in conjunction with textbook work. A variety of hands on activities and games have been included in this unit. It is also important to incorporate a number of different teaching strategies because students learn differently.

II. OVERVIEW

A. Concept Objective:

1. To develop an understanding of numbers and number sense through place value.

B. Content from the *Core Knowledge Sequence*:

1. Read and write numbers (in digits and words) up to nine digits.
2. Recognize place value up to hundred – millions.
3. Write numbers in expanded form.

C. Skill Objectives:

1. Students will be able to compare place value in standard, expanded, and written form.
2. Students will be able to make and read numbers up to 100,000,000 using their knowledge of place value.
3. Students will be able to identify place value to 100,000,000.

III. BACKGROUND KNOWLEDGE

A. For Students:

1. The students will have a basic understanding of place value.

IV. LESSONS

Lesson One: The Role of the Dice

A. *Daily Objective*

1. Concept Objective
 - a. To develop an understanding of numbers and number sense through place value.
2. Lesson Content
 - a. Identifying place value
3. Skill Objective
 - a. Students will be able to create the largest possible number playing a game.
 - b. Students will be able to recognize place value columns.

B. *Materials*

1. “The Role of the Dice” Worksheet (Appendix A)
2. One die for each pair of students
3. Pencil

C. *Key Vocabulary*

1. place value - the space a number occupies within a given number

D. *Procedures/Activities*

For this lesson students will play a game in which they need to be paired up.

1. Review with the students place value columns from ones to hundred thousands.

2. After reviewing and answering student questions, students will be explained how to play the game.
 3. Pass out a worksheet to each student and a die to each pair of students.
 4. Tell students the object of the game is to create the largest possible number.
 5. Explain the directions to the game for the students.
 6. Directions:
 - a. The first player rolls the die.
 - b. He/she must decide where to place that number on their worksheet.
 - c. The second player rolls the die.
 - d. He/she must decide where to place that number on their worksheet.
 - e. This is repeated 5 more times.
 - f. Each student must then read the number they made aloud.
 - g. Whichever student has the larger number wins that game.
 - h. Keep tally marks for who won the game.
 - i. Repeat the game until the worksheet is full.
 - j. Whoever won more games is the winner.
 7. Have students play the game.
- E. *Assessment/Evaluation*
- Walk around the room and observe students as they play the game. After the game has been played, review with the students what they have learned. Ask students if they noticed a pattern to how to place the numbers. See if students recognize that you should put the larger digits in the higher place value columns.

Lesson Two: Number Line Up

A. Daily Objectives

1. Concept Objective
 - a. To develop an understanding of numbers and number sense through place value.
2. Lesson Content
 - a. Creating large numbers using place value columns.
3. Skill Objectives
 - a. Students will make and read numbers up to 100,000 using their knowledge of place value.

B. Materials

1. 8 in. by 12 in. pieces of paper with the numbers zero through nine written on them.
2. White Board
3. Markers
4. Eraser

C. Key Vocabulary

1. place value - the space a number occupies within a given number

D. Procedures/Activities

1. Review place value columns with the students.
2. Tell students that we are going to do an activity to recognize and read large numbers.
3. Pass the numbers out to 10 students.
4. Tell the students that you are going to say a number out loud and if the student has a digit that is in that number, they must go to the front of the room.
5. Say the number fifty four thousand, six hundred twenty nine.
6. Have students holding the digits 5, 4, 6, 2, and 9 go to the front of the room.
7. Tell the students that they must get in the correct place value order and face their cards to the remaining students in their seats.
8. Have a child in his/her seat read the number aloud.
9. Check to see if the students made the correct number.

10. Have students return to their seats.
11. Repeat with five more numbers, being sure to include numbers with zeros.
12. Have students with cards give to students without.
13. Repeat with about five more numbers.

E. Assessment/Evaluation

Observe the students as they are creating numbers for accuracy. After playing the game, ask individual students to come to the board and write numbers that the teacher reads to them. Check to see if they are able to write them correctly.

Lesson Three: The Value of Beads

A. Daily Objectives

1. Concept Objective
 - a. To develop and understanding of numbers and number sense through place value.
2. Lesson Content
 - a. Students will understand place value to the one millions place.
3. Skill Objective
 - a. Students will create a model showing place value to the one millions.

B. Materials

1. Pipe cleaners (one per pair of students)
2. Beads (50 of each color. Have extra available.)
 - a. Clear
 - b. Dark Blue
 - c. Orange
 - d. Green
 - e. Red
 - f. Yellow
 - g. Light Blue
3. Pencils (one per pair)
4. Paper (one per pair)

C. Key Vocabulary

1. place value - the space a number occupies within a given number

D. Procedures/Activities

1. Using prior knowledge, ask students to define place value.
2. Review place value on the board.
3. Discuss the representation of each value in colors.
4. Give each pair of students a pipe cleaner. (Tell students this is going to hold the representation of the number.)
5. Tell students that each color bead represents a specific place value column.
 - a. Orange = 1,000,000
 - b. Clear = 100,000
 - c. Dark Blue = 10,000
 - d. Green = 1,000
 - e. Yellow = 100
 - f. Red = 10
 - g. Light Blue = 1
6. Tell students that to make a number, you must place the correct color and number of beads on the pipe cleaner.
7. Show an example. Write 2,596,813 on the board. Put beads in the appropriate place. (2 orange; 5 clear; 9 dark blue; 6 green; 8 yellow; 1 red; and 3 light blue.)
8. Complete a second example with a zero, showing how the color of bead would not be represented.

9. Give the students guidelines to follow for success:
 - a. Teacher will say the number.
 - b. The tallest student in each pair (1) will write down the value.
 - c. The shorter student (2) will check for accuracy.
 - d. (2) will place the correct beads in order.
 - e. (1) will get the beads needed.
 - f. For the next number, (2) will write down the number and (1) will put the bead values together.
10. Tell the students they may begin.

E. *Assessment/Evaluation*

Walk around the room and observe students creating the numbers given. Make sure the beads are in the right order. If they are not, ask them what might be wrong with it and give them time to make the correction.

Lesson Four: Expanding Place Value

A. *Daily Objectives*

1. Concept Objective
 - a. To develop an understanding of numbers and number sense through place value.
2. Lesson Content
 - a. Identifying place value in expanded form.
 - b. Recognizing the number in standard form in the 100,000's.
3. Skill Objective
 - a. Students will correctly identify place value in expanded form.

B. *Materials*

1. 1 baggie for each table.
2. 10 cards with numbers on them up to one hundred thousands.
3. 2" cards of different lengths with expanded form numbers. Each 2" card has one of each 100,000's; 10,000's; 1,000's; 100's; and ones.
4. White board
5. Markers
6. Eraser

C. *Key Vocabulary*

1. Place value - the space a number occupies in any number

D. *Procedures/Activities*

1. Review with students how place value in numbers is in the standard form.
2. Introduce the expanded form on the white board.
3. Show how the expanded form equals the standard form if added together.
4. Show students how to use the cards by demonstrating a standard form place value place value on the board and then putting it into expanded form with the cards.
5. Directions:
 - a. One player picks up a card.
 - b. The player on the left puts the correct sequence together to create the expanded form place value.
 - c. Other students at the table help the student.
 - d. When the number is complete, the team raises their hands for clarification.
 - e. The person to the left of the first player will pick up the card and read the number.
 - f. The person to the left of the second player puts the cards in the correct sequence with help from the team.
 - g. Again, when the number is complete, the team raises their hands for clarification.
 - h. Students continue playing the game until all 10 cards have been correctly sequenced.

E. Assessment/Evaluation

Walk around the room to be sure each student has the correct number before letting them continue to the next number. Make sure each student has had the opportunity to put the cards in the right sequence. Game points will be taken each time a team completes a value in expanded form.

Lesson Five: Be-9-Bingo

A. Daily Objectives

1. Concept Objective
 - a. To develop an understanding of numbers and number sense through place value.
2. Lesson Content
 - a. Understanding the different place value columns up to millions.
3. Skill Objectives
 - a. Students will be able to read and understand numbers through the millions.
 - b. Students will be able to compare the digits in each place value position.
 - c. Students will be able to identify place value position of the number 9.

B. Materials

1. 30 bingo cards (example – Appendix B)
2. Calling cards
3. Bingo markers

C. Key Vocabulary

1. Place value - the space a number occupies in any given number. Based on multiples of ten.

D. Procedures/Activities

1. Students can be placed in small or large groups.
2. Each player is given a card and markers.
3. Caller shuffles the calling cards and places them facedown in a pile.
4. Caller picks to card and calls the number.
5. Using listening skills and knowledge, students search for the number and cover it.
6. Caller puts card face up on the table
7. The game continues until the first player to cove a row across or down calls out “BINGO”.
8. That player calls out each number in his/her row.
9. The caller checks the cards to verify the numbers called. If the numbers are the correct ones, the player wins the game. If he/she does not have the correct numbers, the game continues until “BINGO” is called again.
10. After a winner is declared, players will remove the markers. They may keep their original card or exchange with another player. The new game begins.

(Variations to the game: top row only, four corners, column E only, or the whole card Black Out.)

E. Assessment/Evaluation

A student who wins calls out each number in his row to verify that his numbers were called. Students will be assessed on their participation in the game.

VI. CULMINATING ACTIVITY

Lesson Six: Where is the treasure and how much is it worth?

A. Daily Objectives

1. Concept Objective
 - a. To develop an understanding of numbers and number sense through place value.
2. Lesson Content
 - a. Reinforce knowledge of place value in standard form, expanded form, and word form.

3. Skill Objective
 - a. Students will play a game of Treasure Island to test their skill at place value.
- B. *Materials*
 1. One per student:
 - a. Lined paper
 - b. Pencil
 2. Place value cards
 3. Game board (Appendix C)
 4. One die per two students
 5. Markers for game board
- C. *Key Vocabulary*
 1. Place value- the space a number occupies in any number. Based on multiples of 10.
- D. *Procedures/Activities*
 1. The students play in pairs.
 2. The taller of the two is first.
 3. The student rolls the die and moves his marker that number of spaces.
 4. If the student lands on “Pick a Card”, he/she must write the problem down correctly on the sheet of lined paper.
 5. The other student checks to see if the answer is correct.
 6. Then it is the other student’s turn to roll the die. The students continue playing the game until someone reaches the treasure.
- E. *Assessment/Evaluation*

Each student will hand in their lined sheet with the answers into the teacher to be checked for understanding.

VII. HANDOUTS/WORKSHEETS

Appendices A – C

VIII. BIBLIOGRAPHY

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- B. Knapp, Brian & McCrae, Duncan. *Math Matters! Numbers*. Danbury, CT: Grolier Educational, 1999. ISBN 0-7172-9295-9.
- C. *Mathematics Plus*. Orlando, FL: Harcourt Brace Jovanovich, 1992. ISBN 0-15-300141-0.
- D. *All Year Patterns & Projects, Make Your Own Games!* Riverside, CA: Teacher’s Friend Publications, Inc., 1994. ISBN 0-943262-56-5.

Appendix B

	N	I	N ^{2nd}	E
9	99	909	9,900	
90,999	90,009	90	990,090	
900,900	9,090	99,909	9,999	

Be-9 Bingo

Appendix C

Write "Three hundred million, five thousand, two hundred ten" <i>in standard form</i>	Write 200,000 90 000 70 + 1 <i>in standard form</i>	Write 890 71 <i>expanded form</i>	Write 998 691 14 <i>word for</i>
Write 20,000,000 + 9,000,000 + 600,000 + 50,000 + 2,000 + 100 + 6 <i>in standard form</i>	Write "Five hundred million, sixty-two thousand sixteen" <i>in standard form</i>	Write "Three million, two hundred seventy thousand, ninety" <i>in expanded form</i>	Write 700,000 + 30,000 + 10 <i>in word form</i>
Write 2,891.404 <i>in expanded form</i>	Write 42,315,198 <i>in word form</i>	Write 50,000,000 + 200,000 + 50,000 + 1,000 + 10 + 5 <i>in standard form</i>	Write " Three hundred fifty-two thousand, seven hundred twenty-two" <i>in expanded form</i>
Write 520,001 <i>in expanded form</i>	Write "Fifty-six million twenty-eight" <i>in standard form</i>	Write 22,891,001 <i>in word form</i>	Write 798,428,377 <i>in expanded form</i>

Appendix C, continued

Write $2,000 + 300 + 90 + 6$ <i>in standard form</i>	Write "Two hundred fifty-eight thousand, seven hundred ten" <i>in standard form</i>	Write 5,753,206 <i>in expanded form</i>	Write 3,289,002 <i>in word form</i>
Write $90,000,000 + 3,000,000 + 200,000 + 20,000 + 9,000 + 400 + 50 + 2$ <i>in word form</i>	Write "Nine hundred ten million, six hundred twenty-two thousand, six" <i>in standard form</i>	Write "Three hundred one thousand, seven" <i>in expanded form</i>	Write 987,045,721 <i>in word form</i>
Write "Thirty million, four hundred two thousand, nine" <i>in expanded form</i>	Write 995,436,221 <i>in expanded form</i>	Write 46,890,127 <i>in word form</i>	"Write twenty - two thousand , one hundred fifty-three" <i>in expanded form</i>
Write 1,260,409 <i>in expanded form</i>	Write "Eight hundred twenty thousand, six" <i>in expanded form</i>	Write 3,270,887 <i>in word form</i>	Write 235,891,333 <i>in expanded form</i>

Treasure Island Gameboard



Treasure Island Gameboard

