

Place Value Lesson
Grade 4
Fall 2008
CMT Strand 1: Place Value
Total Time: Approx. 45 minutes

Learning Objectives:

Students will be able to –

1. Know-Read and write whole numbers to the ten thousands.
2. Understand- The place value structure, of the base-ten number system.
3. Do- Use place value concepts to identify, compare, and evaluate the magnitude and values of multiple digit numbers.

Language Objectives:

The students will be able –

1. Explain and discuss what number is the greatest in size according to place value.
2. Use place value vocabulary when describing numbers (ones, tens, hundreds, thousands, ten thousands.)

Materials:

1. Number Cards with the same 5-digit numbers (ten thousands), mixed in order.
2. Number Cards with removable numbers
3. Tape to tape the numbers on to the strips
4. Oak tag
5. Whiteboards (4-5 depending on how many groups you have)
6. Whiteboard markers/Erasers

Initiation:

(Approx. 5 minutes)

1. Math money example.

Give money example. Would you rather have \$1, \$10, \$100 or \$1000? Why? (Approximately 5 min.) Discuss the example.

1= thousands

0=hundreds

0=tens

0=ones

2. Short discussion about money example.
 - a. What is the purpose of the zeros?
 - b. How would you say 1,000 using place value vocabulary (ones, tens, hundreds)?
 - c. What place value is the 1 in? What place value is the last 0 in?
 - d. How would you write this in extended form?

Procedures:

(Approximately 15-20min)

3. Go over learning objectives. Explain what “talk moves” are encourage them to be used be in discussion. ***Each team gets a point when they use a talk move correctly.
4. Go over a few examples of place value. Show what writing out the words and numbers (ones, tens, hundreds, thousands etc.) looks like.
5. Explain Game 1 Directions.
6. Have someone repeat the directions. Ask for questions.
7. Break students into 6 groups (or however many groups you like.)
8. Pass out numbers on strips to each group.

Logistics:

Ask students to look at their number.

- a. How many digits does it have in it?
- b. What is the largest place value in that number? Ask them to explain why.
(Students can look on the board if they need to remember)
- c. Each team gets a point when they use a talk move correctly.
- d. Ask students to read their number out loud using place value vocabulary. (I.e. the students’ number is 24,567. The students say, “2, 4, 5, 6, 7”. Ask the student to say the number using the words on the board “2 what?” “2 ten thousands, 4 thousands, 5 hundreds, 6 tens, 7 ones” and then ask the student to read it how we would say it? “24 thousand, 5 hundred 67.”
- e. Teacher writes the numbers on the board as the students say them..
- f. Have someone else in the group try to say the number both ways.
- g. Ask students what do the numbers have in common? Are they all the same value? Why or Why not?
- h. Ask the students as a group to write their numbers on the whiteboard according from the highest number to the lowest number. ex. 90315, 50391, 35910, 19503, 10935
- i. Students hold up their boards. Discuss what is the correct order and why. Each team gets a point when they use a talk move appropriately.
- j. Ask students to now look at their number again.

Ask students to locate the number 3. What place value is it holding? Students discuss as a group and write the written place value word (i.e. tens, ones, thousands) on their whiteboard. Once finished one person holds up the number, another holds up the whiteboard. All the groups share what place value the 3 is in. If they have the correct place value written on their board, they get a point.

- k. Continue this changing the digit that students are looking for or ask them to write the place value (i.e. thousands, hundreds) of that number on their board. A point is rewarded for a correct answer.
- l. Students write the extended value of their number on their board. If they get it correct, they receive a point.

9. Explain game 2 directions. (Approximately 10 minutes)

Logistics: “As a team, take your number (all groups can either get the same number or can get different numbers depending on the teacher’s preference) and rearrange the

- digits so that you will have the largest number possible. Be prepared to explain why your group chose that order.”
10. Model an example.
 - a. “You have the number 2075. How may you rearrange those digits to make the largest number possible? What difference does changing the numbers make? What are your reasons for saying that?”
 11. Have a student repeat the directions.
 12. Pass out strips with removable numbers on them.
 13. Tell the students that their team will get 1 point for each number that is in the correct place value.
 14. Let the students rearrange the numbers.
 15. Discuss the groups’ numbers and the order that they chose.
 - a. Have students explain their reasoning for putting the digits in that order.
 - i. What strategies did you use?
 - ii. How do you know that that is the correct order?
 - iii. How do you know that the number is in the largest place value spot?

Differentiation Options:

Depending on how much the students already know, the number can range how many digits it has. (i.e. hundreds to millions, 490 or 1,209,769).

Give the example of writing a check. What if you were writing a check for \$100 dollars and you added a zero (\$1000)? What happened to the hundred dollars?

Discuss the checks use written words of place value.

ex. \$435.00 → four hundred and thirty-five dollars

Closure:

(5 minutes)

Whole-class Discussion: What did you learn? Why is place value important? Refer to money example or come up with another example.

Assessments:

1. Whole class discussion
2. Observations and small-group discussion



Think Cards

Think cards are used to help children that are having difficulties, to clarify information and give direction, and can also be used to challenge students. Some of the cards can serve more than one purpose. The think cards below are ordered by

First row= hint cards

Second row= clarifying cards

Third row= challenge cards

SAMPLE "THINK" CARDS

<p>THINK CARD</p> <p>How does the value of 675 change if the 6 is changed to a 4?</p>	<p>THINK CARD</p> <p>What would your number look like in written form? Ex. 245 Two hundred Forty-Five</p>	<p>THINK CARD</p> <p>How would you represent three hundred twenty-two in number form?</p>
<p>THINK CARD</p> <p>Name the place values you found starting with the ones place</p>	<p>THINK CARD</p> <p>Put these amounts from smallest to largest. \$125, \$215, \$251, \$521, \$512</p> <p>Which amount of money would you want?</p>	<p>THINK CARD</p> <p>Remember our money example. \$1, \$10, \$100, \$1000</p> <p>What happens to 1 when a zero or zeros are added?</p>
<p>THINK CARD</p> <p>Tell how much each digit is worth in this number: 8,723</p> <p>8= 7= 2= 3=</p>	<p>THINK CARD</p> <p>Write a sentence explaining how a number's value is changed based on where the number is.</p>	<p>THINK CARD</p> <p>Rearrange the digits to make the largest number possible.</p> <p>50,903,721</p>

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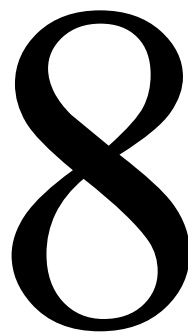
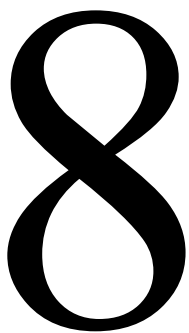
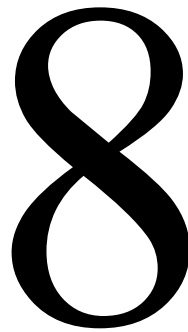
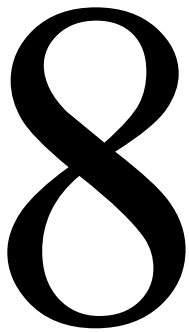
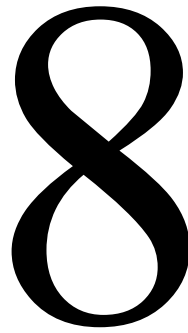
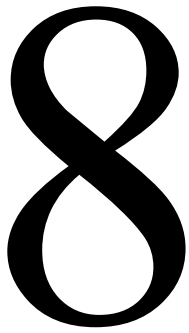
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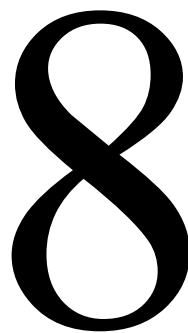
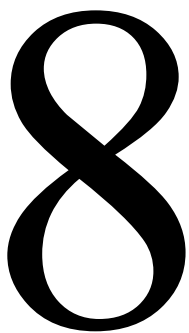
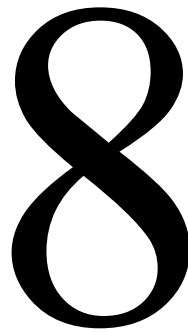
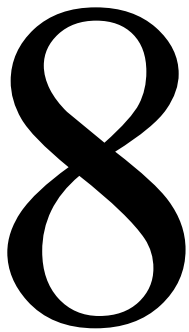
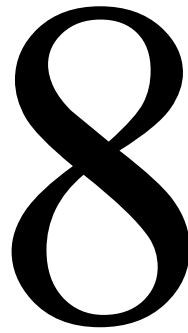
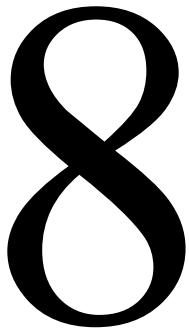
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