Title: Whole Numbers and Place Value
Class: Math 1 or Math 4
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Instructions to tutor: Read instructions and follow all steps for each problem exactly as given.
Keywords/Tags: whole numbers, place value, digits, natural numbers

Whole Numbers and Place Value

Purpose:

This is intended to refresh your knowledge about whole numbers and place value.

Activity: Work through the following activity/problems. You may use your book to help you, but do not consult a tutor until you have completed through problem #9 on this activity.

The **natural numbers** are the numbers: 1, 2, 3, ...
The **whole numbers** are the numbers: 0, 1, 2, 3, ...

1. In your own words, describe the difference between the natural numbers and the whole numbers.

Column Names:
Each digit resides in a certain column:

8	2	0	,	3	6	4
Hundred-thousands	Ten-thousands	Thousands		Hundreds	Tens	Ones

The columns are named in groups of three, with commas separating the groups.

9	1	,	5	5	8	,	2	3	1	,	0	4	9	,	7	2	5
Trillions			Billions				Millions				Thousands				Ones or units		

2. Name the column in the number above that each of the following is in:
(a) the 8 _____

(b) the 4 _____

(c) the 9 _____

(d) the 0 _____

3. In the number 58,201,753 name the column that contains

(a) the 2 _____

(b) the 8 _____

(c) the 5 _____

(d) the 3 _____

Expanded Form of a Number

The number 8,259 has an 8 in the thousands column, a 2 in the hundreds column, a 5 in the ones c
so it can be written:

$$8259 = 8000 + 200 + 50 + 9 = 8 \times 1000 + 2 \times 100 + 5 \times 10 + 9 \times 1$$

This is the **expanded form** of 8259.

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4. Write the expanded form of 52,061.

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5. Write the expanded form of 702,945.

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6. Write as a single number: $9 \times 1000 + 0 \times 100 + 0 \times 10 + 3 \times 1$

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7. Write as a single number: $9 \times 10,000 + 6 \times 1000 + 0 \times 100 + 8 \times 10 + 2 \times 1$

We read the name of a large number from left to right, in groups of three.
We use the right-most digit in each group to read that group.

Example: 921,342 is read "Nine hundred twenty-one thousand, three hundred forty-two."

If all three digits in a group are zero, we skip that group when reading the number.

Example: 26,000,450 is read "Twenty-six million, four hundred fifty." Notice we do not use the wor
when reading these whole numbers.

8. Write out the name of the given numbers:
 (a) 72,959,803

_____

(b) 70,536,299

_____

(c) 12,051,453,647

_____

(d) 800,000,000

_____

(e) 9,002,000,094

_____

(f) 77,000,077,000

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9. Write down the number whose name is given:
(a) forty-one thousand, six hundred seventy-two _____

(b) 921 million, 4 thousand, 253 _____

(c) twenty-two trillion, five hundred four million, six _____

Review: Meet with a tutor to verify your work on this worksheet and discuss some of the areas that were more challenging for you. If necessary, choose more problems from the homework to practice and discuss with the tutor.

For tutor use: Please check the appropriate box.
- ☐ Student has completed worksheet but may need further assistance. Recommend a follow-up with instructor.
- ☐ Student has mastered topic.