

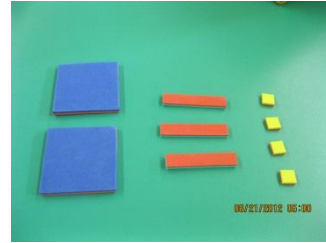
3<sup>rd</sup> Grade Lesson Plans based on **GO Math Common Core ©2012**

**M.3.NO.1** Use place value understanding of up to five-digit whole numbers to round to the nearest 10, 100, and 1,000 (3.NBT.1)

**Chapter 1, 2** Round to the Nearest Ten or Hundred

*Introduction:*

How can we express today's date in tens and ones?  
What day will it be in 10 more days?  
How can we round today's date to the nearest 10?  
Use place value folders "hundreds, tens and ones" to write 645.  
Circle the digit in hundreds place. Look at the digit to the immediate right of the circled digit. Does the hundreds digit stay the same or will it increase by one?  
Remember if the digit to the right is 0,1,2,3, or 4 the circled digit will stay the same.  
If the digit to the right is 5,6,7,8, or 9 the circled digit will increase by one.



*Math Talk in Action:*

Why do you compare the digit to the right of the rounding place to 5?  
(It tells you if you have to change the digit.)  
Suppose you want to round 4,237 to the nearest thousand.  
What digit do you compare to 5?  
(Look at the digit to the right of the 4. Compare it to 5 to see if the number is closer to 4,000 or 5,000.)

*Response to Intervention:*

On the board draw a large number line labeled 0 to 100 with each 10 labeled (10, 20, 30,...80, 90)  
Have each student write a number that is not written on the number line on a self-stick note and place it where it should go on the number line.  
Ask: Between which two tens is your number? Which ten is it closer to?  
  
On the board draw another large number line labeled 0 to 1000 labeling each 100 and multiples of 100. Have the students write a 3-digit number on a self-stick note. Place it on the number line.  
Ask: Between which two hundreds is your number? Which hundred is it closer to?

*Challenge:*

Round to the nearest 1,000 the following numbers. Apply what you have learned about rounding to the nearest ten and hundred to help you choose which 1,000 you should round to.

8,471	3,572	9,598	4,457
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*Assign:*

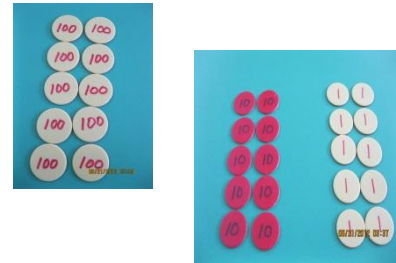
Chapter 1.2 (Choose from Student Edition, Practice Workbook, Reteach, and Challenge depending on the student needs.)

**Chapter 1.3** Estimate Sums

*Introduction:*

Compatible numbers are numbers that are easy to compute mentally and are close to the actual numbers.

Rounding numbers to estimate includes looking to the right of the place you are rounding to and decide if it is 5 or greater, increase by one the digit in the rounding place. If the digit to the right is less than 5, the rounding place stays the same.



*Math Talk in Action:*

Use Place Value Chart

Thousands	Hundreds	Tens	Ones	Rounded Number
1,	6	4	5	2,000
2,	3	8	7	2,000

Have students write number in their Place Value Chart.

Circle the thousands digit, then look at the digit to the immediate right to round 1,645 to 2,000.

Have students repeat the process, rounding 2,387 to the nearest thousand. (2,000)

Then have students estimate the sum for 1,645 + 2,387. (4,000)

Compatible numbers:  $728 + 472 =$

728 is close to 725 and 472 is close to 475.

725 Think quarters in money.  $25¢ + 75¢ = 100¢$  (or \$1.00.)  
 $+ 475$   $700 + 400 = 1,100$  ( $7 + 4 = 11$ , in hundreds place, put 2 zeroes of hundreds place back on)

So using compatible numbers  $1,100 + 100 = 1,200$ .

*Response to Intervention:*

Use Place Value Chart

Hundreds	Tens	Ones	Rounded Number
2	7	6	300
1	1	3	100

Have students write number in their Place Value Chart.

What is the next step to estimate the sum? (add)

What is the estimate? (400)

*Challenge:*

Round the following numbers to the nearest 10,000. Apply what you have learned about rounding to find the estimate of the sum.

$69,471 + 17,572$

$53,598 + 14,457$

*Assign*

Chapter 1.3 (Choose from Student Edition, Practice Workbook, Reteach, and Challenge depending on the student needs.)

**Chapter 1.8** Estimate Differences

*Introduction*

Estimating differences is an important skill for checking the reasonableness of an answer or finding an estimated difference when an exact difference is not needed. A key word is **about** that lets you know the answer will be an estimate.



*Math Talk in Action:*

Use Place Value Chart

Thousands	Hundreds	Tens	Ones	Rounded Number
2,	6	3	2	3,000
1,	4	8	9	1000

Have students write number in their Place Value Chart.

Circle the thousands digit, then look at the digit to the immediate right to round 2,632 to 3,000.

Have students repeat the process, rounding 1,489 to the nearest thousand. (1,000)

Then have students estimate the difference for 2,632 – 1,489. (2,000)

Compatible numbers: 1,632 - 498 =

1,632 is close to 1,500 and 498 is close to 500.

$$\begin{array}{r} 1,632 \\ - \quad 475 \\ \hline \end{array}$$
 Think numbers that would be easy to subtract.  
 475 is close to 500; 1,632 would become 1,500 to be easy to subtract.  
 So using compatible numbers 1,500 - 500 = 1,000.

*Response to Intervention:*

Use Place Value Chart

Hundreds	Tens	Ones	Rounded Number
6	8	7	700
5	1	6	500

Have students write number in their Place Value Chart.

What is the next step to estimate the difference? (subtract)

What is the estimate? (200)

*Challenge:*

Round the following numbers to the nearest 10,000. Apply what you have learned about rounding to find the estimate of the sum.

39,174 - 17,257

53,508 - 14,745

*Assign*

Chapter 1.8 (Choose from Student Edition, Practice Workbook, Reteach, and Challenge depending on the student needs.)

4th Grade Lesson Plans based on **GO Math Common Core ©2012**

**M.4.NO.1** Use place value understanding of multi-digit whole numbers to round to any place up to millions (4.NBT.1,3)

**M.4.NO.2** Read, write, compare, and understand whole numbers using standard, number name, and expanded forms (4.NBT.2)

**Chapter 1.1 Model Place Value Relationships**

**Chapter 1.2 Read and Write Numbers**

**Chapter 1.5 Rename Numbers**

*Introduction*

The value of a digit depends on its place value position in the number. A place value chart can help you understand the value of each digit in a number. The value of each place is 10 times the value of the place to the right

*Math Talk in Action:*

Use Place Value Chart . Write 894,613 in the chart. Find the value of the digit 9.

Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
			8 hundred thousands	9 ten thousands	4 thousands	6 hundreds	1 ten	3 ones
			800,000	90,000	4,000	600	10	3
flat	long	cube	flat	long	cube	flat	long	cube



Each group of 3 numbers is called a period. The ones, tens, and hundreds places are repeated from right to left in each period and separated by a comma. Also note the shape of each place value position when using manipulatives.



The value of the digit 9 in 894,613 is 90,000 or 9 ten thousands. It would be a long shape.

Define the following vocabulary and have the students practice giving examples of each.

Standard Form – A way to write numbers by using the digits 0-9, with each digit having a place value.

Expanded Form – A way to write numbers by showing the value of each digit.

Word Form – A way to write numbers by using words.

### Renaming Numbers

You can use place value to rename whole numbers.  
 1,200 can be renamed in many ways.

As Thousands and Hundreds

<b>T</b>			<b>T = Thousand,</b>		<b>= Hundred</b>
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One Thousand,      Two Hundreds

As Hundreds


12 Hundreds

As Tens - 120 Tens (Remember 100 = 10 tens)

As Ones – 1,200 Ones (Remember 100 = 100 ones)

*Response to Intervention:*

Use Place Value Chart

Have students write the numbers 20,043 and 2,040,003 on their Place Value Chart.

Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	ten	ones
				2	0	0	4	3
		2	0	4	0	0	0	3
flat	long	cube	flat	long	cube	flat	long	cube

Have students write each number in expanded form and word form and compare.

Standard form		Expanded form	Word form
20,043	=	20,000 + 40 + 3	twenty thousand, forty-three
2,040,003	=	2,000,000 + 40,000 + 3	two million, forty thousand, three

*Challenge:*

If you had a check, what ways are numbers written on the check.

Student Challenge 123 Street Ave. Big City, State 54321	Check number 1234
Pay to the Order of      My Parents	\$ 7,654,321
<u>Seven million, six hundred fifty-four thousands, three hundred twenty-one dollars</u>	
Place Value Bank	<u>Student Challenge</u>

Numbers are written in standard form and in Word form on checks.

*Assign:*

Chapters 1.1 and /or 1.2 and/or 1.5 (Choose from Student Edition, Practice Workbook, Reteach, and Challenge depending on the student needs.)

**Chapter 1.3 Compare and Order Numbers**

**Chapter 1.4 Round Numbers**

*Introduction:*

Align numbers by place value using grid paper.  
Compare 31,072 and 34,315.

		3	1	0	7	2
		3	4	3	1	5

$3=3$      $1<4$

Compare the digits in each place value. Start at the greatest place.

> - means is greater than

< - means is less than

= - means is equal to

There are two ways to write the comparison.  $31,072 < 34,318$  or  $34,318 > 31,072$

*Math Talk in Action:*

Order these numbers from **greatest to least** using >, <, or =.

561,028   582,073   549,006

Write numbers using grid paper.

	5	6	1	0	2	8
	5	8	2	0	7	3
	5	4	9	0	0	6

$5=5=5$      $8>6>4$

Therefore,  $582,073 > 561,028 > 540,006$

*Response to Intervention:*

Order these numbers from **least to greatest** using >, <, or =.

21,409   53,621   170,014

Write numbers using grid paper.

		2	1	4	0	9
		5	3	6	2	1
	1	7	0	0	1	4

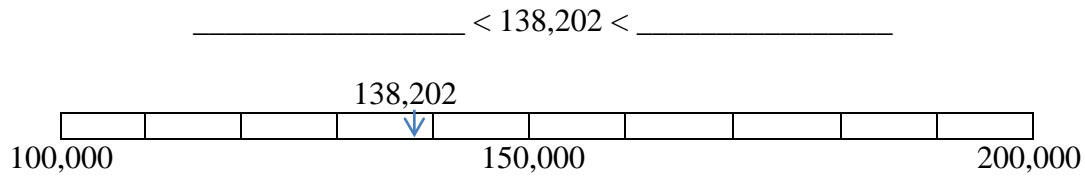
$2<5$      $100,000 >$  either other number

From least to greatest:  $21,309 < 53,621 < 170,014$

### Round Numbers

Estimate means to find an answer that is close to the exact amount.

To round a number to the nearest hundred thousand, find the hundred thousands it is between.



138,202 is closer to 100,000 than to 200,000.

Remember to look at the halfway point to help you find which hundred thousand it is closer to.

### Challenge:

Solve each riddle. Give your answer as a range of numbers.

When rounded to the nearest thousand, I become 3,000. What numbers could I be?

\_\_\_\_\_ (answer 2,500 - 3,499)

When rounded to the nearest ten thousand, I become 600,000. What numbers could I be?

\_\_\_\_\_ (answer 595,000 - 604,999)

When rounded to the nearest hundred thousand, I become 600,000. What numbers could I be?

\_\_\_\_\_ (answer 550,000 - 649,999)

### Assign:

Chapters 1.3 and /or 1.4 (Choose from Student Edition, Practice Workbook, Reteach, and Challenge depending on the student needs.)



### Place Value Chart

Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	ten	ones