

A Story of Units

Pleasanton
UNIFIED SCHOOL DISTRICT

Mathematics Curriculum



Grade 4 • MODULE 1

Place Value, Rounding, and Algorithms for
Addition and Subtraction

Homework

Video tutorials: <http://embarc.online>
Info for parents: <http://bit.ly/pusdmath>

Version 3



Table of Contents

GRADE 4 • MODULE 1

Place Value, Rounding, and Algorithms for Addition and Subtraction

Module Overview	2
Topic A: Place Value of Multi-Digit Whole Numbers.....	20
Topic B: Comparing Multi-Digit Whole Numbers.....	78
Topic C: Rounding Multi-Digit Whole Numbers	107
Mid-Module Assessment and Rubric	153
Topic D: Multi-Digit Whole Number Addition	160
Topic E: Multi-Digit Whole Number Subtraction	188
Topic F: Addition and Subtraction Word Problems.....	242
End-of-Module Assessment and Rubric	276
Answer Key	284

Name _____

Date _____

1. Label the place value charts. Fill in the blanks to make the following equations true. Draw disks in the place value chart to show how you got your answer, using arrows to show any regrouping.

a. 10×4 ones = _____ ones = _____

b. 10×2 tens = _____ tens = _____

c. 5 hundreds $\times 10 =$ _____ hundreds = _____

2. Complete the following statements using your knowledge of place value:

- a. 10 times as many as 1 hundred is _____ hundreds or _____ thousand.
- b. 10 times as many as _____ hundreds is 60 hundreds or _____ thousands.
- c. _____ as 8 hundreds is 8 thousands.
- d. _____ hundreds is the same as 4 thousands.

Use pictures, numbers, or words to explain how you got your answer for Part (d).

3. Katrina has 60 GB of storage on her tablet. Katrina's father has 10 times as much storage on his computer. How much storage does Katrina's father have? Use numbers or words to explain how you got your answer.

4. Katrina saved \$200 to purchase her tablet. Her father spent 10 times as much money to buy his new computer. How much did her father's computer cost? Use numbers or words to explain how you got your answer.
5. Fill in the blanks to make the statements true.
- 4 times as much as 3 is _____.
 - 10 times as much as 9 is _____.
 - 700 is 10 times as much as _____.
 - 8,000 is _____ as 800.
6. Tomas's grandfather is 100 years old. Tomas's grandfather is 10 times as old as Tomas. How old is Tomas?

Name _____

Date _____

1. As you did during the lesson, label and represent the product or quotient by drawing disks on the place value chart.

a. 10×4 thousands = _____ thousands = _____

b. 4 thousands $\div 10 =$ _____ hundreds $\div 10 =$ _____

2. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit Form	Standard Form
10×3 tens		
5 hundreds $\times 10$		
9 ten thousands $\div 10$		
10×7 thousands		

3. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit Form	Standard Form
$(2 \text{ tens } 1 \text{ one}) \times 10$		
$(5 \text{ hundreds } 5 \text{ tens}) \times 10$		
$(2 \text{ thousands } 7 \text{ tens}) \div 10$		
$(4 \text{ ten thousands } 8 \text{ hundreds}) \div 10$		

4. a. Emily collected \$950 selling Girl Scout cookies all day Saturday. Emily's troop collected 10 times as much as she did. How much money did Emily's troop raise?

- b. On Saturday, Emily made 10 times as much as on Monday. How much money did Emily collect on Monday?

Name _____

Date _____

1. Rewrite the following numbers including commas where appropriate:

a. 4321 _____

b. 54321 _____

c. 224466 _____

d. 2224466 _____

e. 10010011001 _____

2. Solve each expression. Record your answer in standard form.

Expression	Standard Form
4 tens + 6 tens	
8 hundreds + 2 hundreds	
5 thousands + 7 thousands	

3. Represent each addend with place value disks in the place value chart. Show the composition of larger units from 10 smaller units. Write the sum in standard form.

a. 2 thousands + 12 hundreds = _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

b. $14 \text{ ten thousands} + 12 \text{ thousands} =$ _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

4. Use digits or disks on the place value chart to represent the following equations. Write the product in standard form.

a. $10 \times 5 \text{ thousands} =$ _____

How many thousands are in the answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

b. $(4 \text{ ten thousands } 4 \text{ thousands}) \times 10 =$ _____

How many thousands are in the answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

c. (27 thousands 3 hundreds 5 ones) \times 10 = _____

How many thousands are in your answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

5. A large grocery store received an order of 2 thousand apples. A neighboring school received an order of 20 boxes of apples with 100 apples in each. Use disks or disks on a place value chart to compare the number of apples received by the school and the number of apples received by the grocery store.

Name _____

Date _____

1. a. On the place value chart below, label the units, and represent the number 50,679.

--	--	--	--	--	--	--

- b. Write the number in word form.

- c. Write the number in expanded form.

2. a. On the place value chart below, label the units, and represent the number 506,709.

--	--	--	--	--	--	--

- b. Write the number in word form.

- c. Write the number in expanded form.

3. Complete the following chart:

Standard Form	Word Form	Expanded Form
	five thousand, three hundred seventy	
		$50,000 + 300 + 70 + 2$
	thirty-nine thousand, seven hundred one	
309,017		
770,070		

4. Use pictures, numbers, and words to explain another way to say sixty-five hundred.

Name _____

Date _____

1. Label the units in the place value chart. Draw place value disks to represent each number in the place value chart. Use $<$, $>$, or $=$ to compare the two numbers. Write the correct symbol in the circle.

a. $909,013$ ○ $90,013$

b. $210,005$ ○ $220,005$

2. Compare the two numbers by using the symbols $<$, $>$, and $=$. Write the correct symbol in the circle.

a. 501,107 89,171

b. $300,000 + 50,000 + 1,000 + 800$ six hundred five thousand, nine hundred eight

c. 3 hundred thousands 3 thousands 8 hundreds 4 tens 303,840

d. 5 hundreds 6 ten thousands 2 ones 3 ten thousands 5 hundreds 1 one

3. Use the information in the chart below to list the height, in feet, of each skyscraper from shortest to tallest. Then, name the tallest skyscraper.

Name of Skyscraper	Height of Skyscraper (ft)
Willis Tower	1,450 ft
One World Trade Center	1,776 ft
Taipei 101	1,670 ft
Petronas Towers	1,483 ft

4. Arrange these numbers from least to greatest: 7,550 5,070 750 5,007 7,505
5. Arrange these numbers from greatest to least: 426,000 406,200 640,020 46,600
6. The areas of the 50 states can be measured in square miles.

California is 158,648 square miles. Nevada is 110,567 square miles. Arizona is 114,007 square miles. Texas is 266,874 square miles. Montana is 147,047 square miles, and Alaska is 587,878 square miles.

Arrange the states in order from least area to greatest area.

Name _____

Date _____

1. Label the place value chart. Use place value disks to find the sum or difference. Write the answer in standard form on the line.

a. 100,000 less than five hundred sixty thousand, three hundred thirteen is _____.

b. Ten thousand more than $300,000 + 90,000 + 5,000 + 40$ is _____.

c. 447,077 is _____ than 347,077.

2. Fill in the blank for each equation:

a. $100,000 + 76,960 =$ _____

b. $13,097 - 1,000 =$ _____

c. $849,000 - 10,000 =$ _____

d. $442,210 + 10,000 =$ _____

e. $172,090 = 171,090 +$ _____

f. $854,121 = 954,121 -$ _____

3. Fill in the empty boxes to complete the patterns.

a.

145,555		147,555		149,555	
---------	--	---------	--	---------	--

Explain in pictures, numbers, or words how you found your answers.

b.

	764,321	774,321			804,321
--	---------	---------	--	--	---------

Explain in pictures, numbers, or words how you found your answers.

c.

125,876	225,876		425,876		
---------	---------	--	---------	--	--

Explain in pictures, numbers, or words how you found your answers.

d.

	254,445			224,445	214,445
--	---------	--	--	---------	---------

Explain in pictures, numbers, or words how you found your answers.

4. In 2012, Charlie earned an annual salary of \$54,098. At the beginning of 2013, Charlie's annual salary was raised by \$10,000. How much money will Charlie earn in 2013? Use pictures, words, or numbers to explain your thinking.

Name _____

Date _____

1. Round to the nearest thousand. Use the number line to model your thinking.

a. $5,900 \approx$ _____



b. $4,180 \approx$ _____



c. $32,879 \approx$ _____



d. $78,600 \approx$ _____



e. $251,031 \approx$ _____



f. $699,900 \approx$ _____



Name _____

Date _____

Complete each statement by rounding the number to the given place value. Use the number line to show your work.

1. a. 67,000 rounded to the nearest ten thousand is _____.



2. a. 867,000 rounded to the nearest hundred thousand is _____.



- b. 51,988 rounded to the nearest ten thousand is _____.



- b. 767,074 rounded to the nearest hundred thousand is _____.



- c. 105,159 rounded to the nearest ten thousand is _____.



- c. 629,999 rounded to the nearest hundred thousand is _____.



3. 491,852 people went to the water park in the month of July. Round this number to the nearest hundred thousand to estimate how many people went to the park. Use a number line to show your work.

4. This number was rounded to the nearest hundred thousand. List the possible digits that could go in the ten thousands place to make this statement correct. Use a number line to show your work.

$$1_9,644 \approx 100,000$$

5. Estimate the sum by rounding each number to the given place value.

$$164,215 + 216,088$$

- a. Round to the nearest ten thousand.

- b. Round to the nearest hundred thousand.

Name _____

Date _____

1. Round to the nearest thousand.

a. $6,842 \approx$ _____

b. $2,722 \approx$ _____

c. $16,051 \approx$ _____

d. $706,421 \approx$ _____

e. Explain how you found your answer for Part (d).

2. Round to the nearest ten thousand.

a. $88,999 \approx$ _____

b. $85,001 \approx$ _____

c. $789,091 \approx$ _____

d. $905,154 \approx$ _____

e. Explain why two problems have the same answer. Write another number that has the same answer when rounded to the nearest ten thousand.

3. Round to the nearest hundred thousand.

a. $89,659 \approx$ _____

b. $751,447 \approx$ _____

c. $617,889 \approx$ _____

d. $817,245 \approx$ _____

e. Explain why two problems have the same answer. Write another number that has the same answer when rounded to the nearest hundred thousand.

Name _____

Date _____

1. Round 845,001 to the nearest

a. thousand: _____.

b. ten thousand: _____.

c. hundred thousand: _____.

2. Complete each statement by rounding the number to the given place value.

a. 783 rounded to the nearest hundred is _____.

b. 12,781 rounded to the nearest hundred is _____.

c. 951,194 rounded to the nearest hundred is _____.

d. 1,258 rounded to the nearest thousand is _____.

e. 65,124 rounded to the nearest thousand is _____.

f. 99,451 rounded to the nearest thousand is _____.

g. 60,488 rounded to the nearest ten thousand is _____.

h. 80,801 rounded to the nearest ten thousand is _____.

i. 897,100 rounded to the nearest ten thousand is _____.

j. 880,005 rounded to the nearest hundred thousand is _____.

k. 545,999 rounded to the nearest hundred thousand is _____.

l. 689,114 rounded to the nearest hundred thousand is _____.

3. Solve the following problems using pictures, numbers, or words.
- In the 2011 New York City Marathon, 29,867 men finished the race, and 16,928 women finished the race. Each finisher was given a t-shirt. About how many men's shirts were given away? About how many women's shirts were given away? Explain how you found your answers.

 - In the 2010 New York City Marathon, 42,429 people finished the race and received a medal. Before the race, the medals had to be ordered. If you were the person in charge of ordering the medals and estimated how many to order by rounding, would you have ordered enough medals? Explain your thinking.

 - In 2010, 28,357 of the finishers were men, and 14,072 of the finishers were women. About how many more men finished the race than women? To determine your answer, did you round to the nearest ten thousand or thousand? Explain.

Name _____

Date _____

1. Solve the addition problems below using the standard algorithm.

a.
$$\begin{array}{r} 7,909 \\ + 1,044 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 27,909 \\ + 9,740 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 827,909 \\ + 42,989 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 289,205 \\ + 11,845 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 547,982 \\ + 114,849 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 258,983 \\ + 121,897 \\ \hline \end{array}$$

g.
$$\begin{array}{r} 83,906 \\ + 35,808 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 289,999 \\ + 91,849 \\ \hline \end{array}$$

i.
$$\begin{array}{r} 754,900 \\ + 245,100 \\ \hline \end{array}$$

Name _____

Date _____

Estimate and then solve each problem. Model the problem with a tape diagram. Explain if your answer is reasonable.

1. There were 3,905 more hits on the school's website in January than February. February had 9,854 hits. How many hits did the school's website have during both months?
 - a. About how many hits did the website have during January and February?

- b. Exactly how many hits did the website have during January and February?

- c. Is your answer reasonable? Compare your estimate from (a) to your answer from (b). Write a sentence to explain your reasoning.

2. On Sunday, 77,098 fans attended a New York Jets game. The same day, 3,397 more fans attended a New York Giants game than attended the Jets game. Altogether, how many fans attended the games?
- a. What was the actual number of fans who attended the games?
- b. Is your answer reasonable? Round each number to the nearest thousand to find an estimate of how many fans attended the games.

3. Last year on Ted's farm, his four cows produced the following number of liters of milk:

Cow	Liters of Milk Produced
Daisy	5,098
Betsy	
Mary	9,980
Buttercup	7,087

- a. Betsy produced 986 more liters of milk than Buttercup. How many liters of milk did all 4 cows produce?

- b. Is your answer reasonable? Explain.

Name _____

Date _____

1. Use the standard algorithm to solve the following subtraction problems.

a.
$$\begin{array}{r} 2,431 \\ - 341 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 422,431 \\ - 14,321 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 422,431 \\ - 92,420 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 422,431 \\ - 392,420 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 982,430 \\ - 92,300 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 243,089 \\ - 137,079 \\ \hline \end{array}$$

g. $2,431 - 920 =$

h. $892,431 - 520,800 =$

2. What number must be added to 14,056 to result in a sum of 38,773?

5. The population of a city is 538,381. In that population, 148,170 are children.
- How many adults live in the city?

- 186,101 of the adults are males. How many adults are female?

Name _____

Date _____

1. Use the standard algorithm to solve the following subtraction problems.

a.
$$\begin{array}{r} 71,989 \\ - 21,492 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 371,989 \\ - 96,492 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 371,089 \\ - 25,192 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 879,989 \\ - 721,492 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 879,009 \\ - 788,492 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 879,989 \\ - 21,070 \\ \hline \end{array}$$

g.
$$\begin{array}{r} 879,000 \\ - 21,989 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 279,389 \\ - 191,492 \\ \hline \end{array}$$

i.
$$\begin{array}{r} 500,989 \\ - 242,000 \\ \hline \end{array}$$

Name _____

Date _____

1. Use the standard subtraction algorithm to solve the problems below.

a.
$$\begin{array}{r} 9,656 \\ - \quad 838 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 59,656 \\ - \quad 5,880 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 759,656 \\ - \quad 579,989 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 294,150 \\ - \quad 166,370 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 294,150 \\ - \quad 239,089 \\ \hline \end{array}$$

f.
$$\begin{array}{r} 294,150 \\ - \quad 96,400 \\ \hline \end{array}$$

g.
$$\begin{array}{r} 800,500 \\ - \quad 79,989 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 800,500 \\ - \quad 45,500 \\ \hline \end{array}$$

i.
$$\begin{array}{r} 800,500 \\ - \quad 276,664 \\ \hline \end{array}$$

Use tape diagrams and the standard algorithm to solve the problems below. Check your answers.

2. A fishing boat was out to sea for 6 months and traveled a total of 8,578 miles. In the first month, the boat traveled 659 miles. How many miles did the fishing boat travel during the remaining 5 months?

2. During the first quarter of the year, 351,875 people downloaded an app for their smartphones. During the second quarter of the year, 101,949 fewer people downloaded the app than during the first quarter. How many downloads occurred during the two quarters of the year?
- Round each number to the nearest hundred thousand to estimate how many downloads occurred during the first two quarters of the year.
 - Determine exactly how many downloads occurred during the first two quarters of the year.
 - Determine if your answer is reasonable. Explain.

3. A local store was having a two-week Back to School sale. They started the sale with 36,390 notebooks. During the first week of the sale, 7,424 notebooks were sold. During the second week of the sale, 8,967 notebooks were sold. How many notebooks were left at the end of the two weeks? Is your answer reasonable?

Name _____

Date _____

Draw a tape diagram to represent each problem. Use numbers to solve, and write your answer as a statement.

1. Gavin has 1,094 toy building blocks. Avery only has 816 toy building blocks. How many more building blocks does Gavin have?

2. Container B holds 2,391 liters of water. Together, Container A and Container B hold 11,875 liters of water. How many more liters of water does Container A hold than Container B?

3. A piece of yellow yarn was 230 inches long. After 90 inches had been cut from it, the piece of yellow yarn was twice as long as a piece of blue yarn. At first, how much longer was the yellow yarn than the blue yarn?

Name _____

Date _____

Draw a tape diagram to represent each problem. Use numbers to solve, and write your answer as a statement.

1. There were 22,869 children, 49,563 men, and 2,872 more women than men at the fair. How many people were at the fair?

2. Number A is 4,676. Number B is 10,043 greater than A. Number C is 2,610 less than B. What is the total value of numbers A, B, and C?

3. A store sold a total of 21,650 balls. It sold 11,795 baseballs. It sold 4,150 fewer basketballs than baseballs. The rest of the balls sold were footballs. How many footballs did the store sell?

Name _____

Date _____

Using the diagrams below, create your own word problem. Solve for the value of the variable.

1. At the local botanical gardens, there are _____

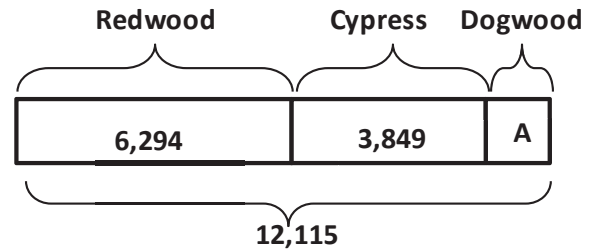
Redwoods and _____ Cypress trees.

There are a total of _____ Redwood,

Cypress, and Dogwood trees.

How many _____

_____ ?



2. There are 65,302 _____

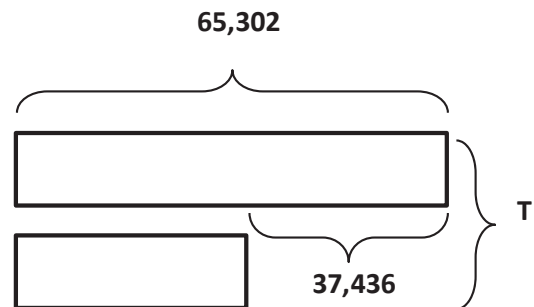
_____.

There are 37,436 fewer _____

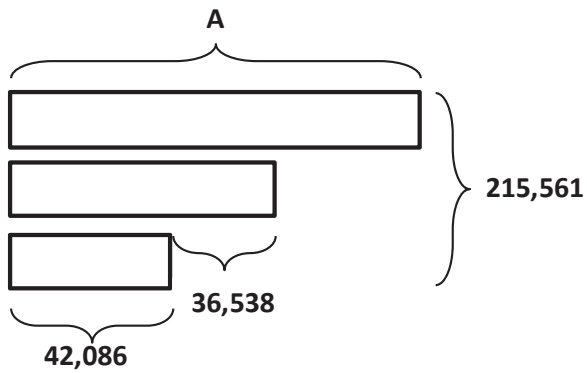
_____.

How many _____

_____ ?



3. Use the following tape diagram to create a word problem. Solve for the value of the variable.



4. Draw a tape diagram to model the following equation. Create a word problem. Solve for the value of the variable.

$$27,894 + A + 6,892 = 40,392$$











Video tutorials: <http://embarc.online>
Info for parents: <http://bit.ly/pusdmath>