

School-Home Letter

Dear Family,

During the next few weeks, our math class will be learning how to use and represent whole numbers through the hundred thousands place. We will also be adding and subtracting multi-digit numbers.

You can expect to see homework that provides practice with naming numbers in different ways, as well as rounding and estimating greater numbers.

Here is a sample of how your child will be taught to write numbers in different forms.

Vocabulary

estimate A number that is close to the exact amount

expanded form A way to write numbers by showing the value of each digit

period Each group of three digits separated by commas in a multi-digit number

round To replace a number with another number that tells about how many or how much

standard form A way to write numbers using the digits 0–9 with each digit having a place value

word form A way to write numbers by using words



MODEL Place Value Through Hundred Thousands

This is how we will be writing numbers in different forms.

Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones
2	8	1,	3	6	5

STANDARD FORM:

281,365

WORD FORM:

two hundred
eighty-one thousand,
three hundred
sixty-five

EXPANDED FORM:

$200,000 + 80,000 +$
 $1,000 + 300 +$
 $60 + 5$

Tips

Rounding Greater Numbers

When rounding, first find the place to which you want to round. Then, look at the digit to the right. If the digit to the right is *less than 5*, the digit in the rounding place stays the same. If the digit is *5 or greater*, the digit in the rounding place increases by 1. All the digits to the right of the rounding place change to zero.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos cómo usar y representar números enteros hasta las centenas de millar. También vamos a sumar y restar números de varios dígitos.

Llevaré a la casa tareas que sirven para practicar diferentes maneras de expresar los números, además de redondear y estimar números mayores.

Este es un ejemplo de la manera como aprenderemos a expresar números de diferentes formas.

Vocabulario

estimación Un número que se aproxima a una cantidad exacta

forma desarrollada Una manera de escribir números que muestra el valor de cada dígito

periodo En un número de varios dígitos, cada grupo de tres dígitos separado por comas

redondear Reemplazar un número con otro que muestra una aproximación de cuánto o cuántos

forma estándar Una manera de escribir números usando los dígitos 0 a 9, en la que cada dígito tiene un valor posicional

en palabras Una manera de escribir números usando palabras



MODELO

Valor posicional hasta las centenas de millar

Así es como escribiremos números de diferentes formas.

MILLARES			UNIDADES		
Centenas	Decenas	Unidades	Centenas	Decenas	Unidades
2	8	1,	3	6	5

FORMA NORMAL:

281,365

EN PALABRAS:

doscientos ochenta y un mil, trescientos sesenta y cinco

FORMA DESARROLLADA:

$$200,000 + 80,000 + 1,000 + 300 + 60 + 5$$

Pistas

Redondear números grandes

Cuando se redondea, primero se halla el lugar al que se quiere redondear. Despues, se debe mirar el dígito que está a la derecha. Si el dígito a la derecha es *menor que 5*, el dígito en el lugar del redondeo se queda igual. Si el dígito es *5 o mayor*, el dígito en el lugar del redondeo aumenta en 1. Todos los dígitos a la derecha del lugar del redondeo cambian a cero.

Model Place Value Relationships

COMMON CORE STANDARD—4.NBT.1
Generalize place value understanding for multi-digit whole numbers.

Find the value of the underlined digit.

1. 6,035

2. 43,782

3. 506,087

4. 49,254

5. 136,422

6. 673,512

7. 814,295

8. 736,144

Compare the values of the underlined digits.

9. 6,300 and 530

The value of 3 in _____ is ____ times
the value of 3 in _____.

10. 2,783 and 7,283

The value of 2 in _____ is ____ times
the value of 2 in _____.

11. 34,258 and 47,163

The value of 4 in _____ is ____ times
the value of 4 in _____.

12. 503,497 and 26,475

The value of 7 in _____ is ____ times
the value of 7 in _____.**Problem Solving****Use the table for 13–14.**

13. What is the value of the digit 9 in the attendance at the Chargers vs. Titans game?

14. The attendance at which game has a 7 in the ten thousands place?

Football Game Attendance	
Game	Attendance
Chargers vs. Titans	69,143
Ravens vs. Panthers	73,021
Patriots vs. Colts	68,756

Lesson Check (4.NBT.1)

- During one season, a total of 453,193 people attended a baseball team's games. What is the value of the digit 5 in the number of people?
- Hal forgot the number of people at the basketball game. He does remember that the number had four digits and a 3 in the tens place. Write a number that Hal could be thinking of.

Spiral Review (Reviews 3.NBT.3, 3.NF.1, 3.MD.1, 3.G.1)

- Hot dog buns come in packages of 8. For the school picnic, Mr. Spencer bought 30 packages of hot dog buns. How many hot dog buns did he buy?

- There are 8 students on the minibus. Five of the students are boys. What fraction of the students are boys?

- The clock below shows the time when Amber leaves home for school. At what time does Amber leave home?

- Jeremy drew a polygon with four right angles and four sides with the same length.



What kind of polygon did Jeremy draw?

Name _____

Read and Write Numbers

COMMON CORE STANDARD—4.NBT.2
Generalize place value understanding for
multi-digit whole numbers.

Read and write the number in two other forms.

1. six hundred ninety-two thousand, four

2. 314,207

3. $600,000 + 80,000 + 10$

standard form: _____**692,004;** _____**expanded form:** _____**600,000 +** _____**90,000 +** _____**2,000 + 4** _____**Use the number 913,256.**

4. Write the name of the period that has the digits 913.

5. Write the digit in the ten thousands place.

6. Write the value of the digit 9.

Problem Solving**Use the table for 7 and 8.****Population in 2008**

State	Population
Alaska	686,293
South Dakota	804,194
Wyoming	532,668

7. Which state had a population of eight hundred four thousand, one hundred ninety-four?

8. What is the value of the digit 8 in Alaska's population?

Lesson Check (4.NBT.2)

1. Based on a 2008 study, children 6–11 years old spend sixty-nine thousand, one hundred eight minutes a year watching television. What is this number written in standard form?
 2. What is the value of the digit 4 in the number 84,230?
-
-

Spiral Review (Reviews 3.OA.7, 3.OA.8, 3.OA.9; 4.NBT.1)

3. An ant has 6 legs. How many legs do 8 ants have?
 4. Latricia's vacation is in 4 weeks. There are 7 days in a week. How many days is it until Latricia's vacation?
 5. Marta collected 363 cans. Diego collected 295 cans. How many cans did Marta and Diego collect?
 6. The city Tim lives in has 106,534 people. What is the value of the 6 in 106,534?
-
-

Name _____

Compare and Order Numbers

COMMON CORE STANDARD—4.NBT.2
Generalize place value understanding for multi-digit whole numbers.

Compare. Write <, >, or =.

1. $3,273 \bigcirc 3,279$

2. $\$1,323 \bigcirc \$1,400$

3. $52,692 \bigcirc 52,692$

4. $\$413,005 \bigcirc \$62,910$

5. $382,144 \bigcirc 382,144$

6. $157,932 \bigcirc 200,013$

7. $401,322 \bigcirc 410,322$

8. $989,063 \bigcirc 980,639$

9. $258,766 \bigcirc 258,596$

Order from least to greatest.

10. $23,710; 23,751; 23,715$

11. $52,701; 54,025; 5,206$

12. $465,321; 456,321; 456,231$

13. $\$330,820; \$329,854; \$303,962$

Problem Solving

14. An online newspaper had 350,080 visitors in October, 350,489 visitors in November, and 305,939 visitors in December. What is the order of the months from greatest to least number of visitors?

15. The total land area in square miles of each of three states is shown below.

Colorado: 103,718

New Mexico: 121,356

Arizona: 113,635

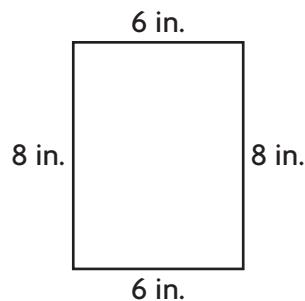
What is the order of the states from least to greatest total land area?

Lesson Check (4.NBT.2)

- At the yearly fund-raising drive, the nonprofit company's goal was to raise \$55,500 each day. After three days, it had raised \$55,053; \$56,482; and \$55,593. Which amount was less than the daily goal?
 - List these numbers in order from greatest to least: 90,048; 93,405; 90,543
-
-

Spiral Review (Reviews 3.NF.3d, 3.MD.8; 4.NBT.1, 4.NBT.2)

- Write a fraction that is less than $\frac{5}{6}$ and has a denominator of 8.
- What is the perimeter of the rectangle below?



- A website had 826,140 hits last month. What is the value of the 8 in 826,140?
 - Write 680,705 in expanded form.
-
-

Name _____

Round Numbers

COMMON CORE STANDARD—4.NBT.3
Generalize place value understanding for multi-digit whole numbers.

Round to the place value of the underlined digit.

1. 862,840

862,840
↑
less than 5

860,000

2. 123,499

3. 552,945

- Look at the digit to the right. If the digit to the right is *less than 5*, the digit in the rounding place stays the same.
- Change all the digits to the right of the rounding place to zero.

4. 389,422

5. 209,767

6. 191,306

7. 66,098

8. 73,590

9. 149,903

10. 684,303

11. 499,553

Problem Solving**Use the table for 12–13.**

12. Find the height of Mt. Whitney in the table. Round the height to the nearest thousand feet.

_____ feet

13. What is the height of Mt. Bona rounded to the nearest ten thousand feet?

_____ feet

Mountain Heights		
Name	State	Height (feet)
Mt. Bona	Alaska	16,500
Mt. Whitney	California	14,494

Lesson Check (4.NBT.3)

- What is 247,039 rounded to the nearest thousand?
 - To the nearest ten thousand, the population of Vermont was estimated to be about 620,000 in 2008. What might have been the exact population of Vermont in 2008?
-
-

Spiral Review (Reviews 3.NF.1; 4.NBT.2)

- Write the symbol that makes the following number sentence true?
- Pittsburgh International Airport had approximately 714,587 passengers in August 2009. Write a number that is greater than 714,587.

\$546,322 \$540,997

- June made a design with 6 equal tiles. One tile is yellow, 2 tiles are blue, and 3 tiles are purple. What fraction of the tiles are yellow or purple?
 - The fourth grade collected 40,583 cans and plastic bottles. Write this number in word form.
-
-

Name _____

Rename Numbers

COMMON CORE STANDARD—4.NBT.1
Generalize place value understanding for multi-digit whole numbers.

Rename the number. Use the place-value chart to help.

1. 760 hundreds = 76,000

Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones
7	6,	0	0	0	0

2. 805 tens = _____

Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones

3. 24 ten thousands = _____

Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones

Rename the number.

4. $720 =$ _____ tens

5. $4 \text{ thousands } 7 \text{ hundreds} = 47$ _____

6. $25,600 =$ _____ hundreds

7. $204 \text{ thousands} =$ _____

Problem Solving

8. For the fair, the organizers ordered 32 rolls of tickets. Each roll of tickets has 100 tickets. How many tickets were ordered in all?

9. An apple orchard sells apples in bags of 10. The orchard sold a total of 2,430 apples one day. How many bags of apples was this?

Lesson Check (4.NBT.1)

1. A dime has the same value as 10 pennies. Marley brought 290 pennies to the bank. How many dimes did Marley get?
 2. A citrus grower ships grapefruit in boxes of 10. One season, the grower shipped 20,400 boxes of grapefruit. How many grapefruit were shipped?
-
-

Spiral Review (Reviews 3.OA.5; 4.NBT.1, 4.NBT.2, 4.NBT.3)

3. There were 2,605 people at the basketball game. A reporter rounded this number to the nearest hundred for a newspaper article. What number did the reporter use?
 4. To get to Level 3 in a game, a player must score 14,175 points. Ann scores 14,205 points, Ben scores 14,089 points, and Chuck scores 10,463 points. Which score is greater than the Level 3 score?
 5. Henry counted 350 lockers in his school. Hayley counted 403 lockers in her school. How does the 3 in 350 compare to the 3 in 403?
 6. There are 4 muffins on each plate. There are 0 plates of lemon muffins. How many lemon muffins are there?
-
-
-
-

Name _____

Add Whole Numbers

COMMON CORE STANDARD—4.NBT.4
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Estimate. Then find the sum.1. Estimate: 90,000

$$\begin{array}{r}
 11 \\
 63,824 \rightarrow 60,000 \\
 + 29,452 \rightarrow + 30,000 \\
 \hline
 93,276 \qquad 90,000
 \end{array}$$

2. Estimate: _____

$$\begin{array}{r}
 73,404 \\
 + 27,865 \\
 \hline
\end{array}$$

3. Estimate: _____

$$\begin{array}{r}
 403,446 \\
 + 396,755 \\
 \hline
\end{array}$$

4. Estimate: _____

$$\begin{array}{r}
 137,638 \\
 + 52,091 \\
 \hline
\end{array}$$

5. Estimate: _____

$$\begin{array}{r}
 200,629 \\
 + 28,542 \\
 \hline
\end{array}$$

6. Estimate: _____

$$\begin{array}{r}
 212,514 \\
 + 396,705 \\
 \hline
\end{array}$$

7. Estimate: _____

$$\begin{array}{r}
 324,867 \\
 + 6,233 \\
 \hline
\end{array}$$

8. Estimate: _____

$$\begin{array}{r}
 462,809 \\
 + 256,738 \\
 \hline
\end{array}$$

9. Estimate: _____

$$\begin{array}{r}
 624,836 \\
 + 282,189 \\
 \hline
\end{array}$$

Problem Solving**Use the table for 10–12.**

10. Beth and Cade were on one team.

What was their total score?

11. Dillan and Elaine were on the other team.

What was their total score?

12. Which team scored the most points?
-
- _____

Individual Game Scores

Student	Score
Beth	251,567
Cade	155,935
Dillan	188,983
Elaine	220,945

Lesson Check (4.NBT.4)

1. The coastline of the United States is 12,383 miles long. Canada's coastline is 113,211 miles longer than the coastline of the United States. How long is the coastline of Canada?
2. Germany is the seventh largest European country and is slightly smaller by area than Montana. Germany has a land area of 134,835 square miles and a water area of 3,011 square miles. What is the total area of Germany?

Spiral Review (4.NBT.2, 4.NBT.3)

3. In an election, about 500,000 people voted in all. What could be the exact number of people who voted in the election?
4. In 2007, Pennsylvania had approximately 121,580 miles of public roads. What is 121,580 rounded to the nearest thousand?

5. Order these numbers from least to greatest:
749,340; 740,999; 740,256

6. Which symbol makes the following statement true?

\$413,115 \$431,511

Name _____

Subtract Whole Numbers

COMMON CORE STANDARD—4.NBT.4
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Estimate. Then find the difference.

1. Estimate:
- 600,000

$$\begin{array}{r}
 & & 9 \\
 & 7 & 1 & 0 & 1 & 5 & 6 & 1 & 3 \\
 780,573 & - & 229,615 & \hline
 & 550,958
 \end{array}$$

Think: 780,573 rounds to 800,000.

229,615 rounds to 200,000.

So an estimate is $800,000 - 200,000 = 600,000$.

2. Estimate: _____

$$\begin{array}{r}
 428,731 \\
 - 175,842 \\
 \hline
 \end{array}$$

3. Estimate: _____

$$\begin{array}{r}
 920,026 \\
 - 535,722 \\
 \hline
 \end{array}$$

4. Estimate: _____

$$\begin{array}{r}
 253,495 \\
 - 48,617 \\
 \hline
 \end{array}$$

Subtract. Add to check.

5. $735,249 - 575,388$

6. $512,724 - 96,473$

7. $600,000 - 145,782$

Problem Solving**Use the table for 8 and 9.**

8. How many more people attended the Magic's games than attended the Pacers' games?

9. How many fewer people attended the Pacers' games than attended the Clippers' games?

Season Attendance for Three NBA Teams

Team	Attendance
Indiana Pacers	582,295
Orlando Magic	715,901
Los Angeles Clippers	670,063

Lesson Check (4.NBT.4)

1. This year, a farm planted 400,000 corn stalks. Last year, the farm planted 275,650 corn stalks. How many more corn stalks did the farm plant this year than last year?

2. One machine can make 138,800 small paper clips in one day. Another machine can make 84,250 large paper clips in one day. How many more small paper clips than large paper clips are made by the two machines in one day?

Spiral Review (4.NBT.2, 4.NBT.3, 4.NBT.4)

3. In three baseball games over a weekend, 125,429 people came to watch. The next weekend, 86,353 people came to watch the games. How many people total watched the six baseball games?

4. Kevin read the number “two hundred seven thousand, forty-eight” in a book. What is this number in standard form?

5. A museum had 275,608 visitors last year. What is this number rounded to the nearest thousand?

6. At the Millville Theater, a play ran for several weeks. In all, 28,175 people saw the play. What is the value of the digit 8 in 28,175?

Name _____

PROBLEM SOLVING**Lesson 1.8****Problem Solving • Comparison Problems
with Addition and Subtraction**

COMMON CORE STANDARD—4.NBT.4
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Use the information in the table for 1–3.

1. How many square miles larger is the surface area of Lake Huron than the surface area of Lake Erie?

Think: How can a bar model help represent the problem? What equation can be written?

Lake Huron

22,973

Lake Erie

9,906

?

$$22,973 - 9,906 = \underline{\underline{13,067}}$$

square miles

Surface Area of the Great Lakes

Lake	Surface Area (in square miles)
Lake Superior	31,700
Lake Michigan	22,278
Lake Huron	22,973
Lake Erie	9,906
Lake Ontario	7,340

13,067 square miles

2. Which lake has a surface area that is 14,938 square miles greater than the surface area of Lake Ontario? Draw a model and write a number sentence to solve the problem.

3. Lake Victoria has the largest surface area of all lakes in Africa. Its surface area is 26,828 square miles. How much larger is the surface area of Lake Superior than that of Lake Victoria?

4. At 840,000 square miles, Greenland is the largest island in the world. The second-largest island is New Guinea, at 306,000 square miles. How much larger is Greenland than New Guinea?

Lesson Check (4.NBT.4)

1. The Mariana Trench in the Pacific Ocean is about 36,201 feet deep. The Puerto Rico Trench in the Atlantic Ocean is about 27,493 feet deep. Draw a bar model to find, how many feet deeper the Mariana Trench is than the Puerto Rico Trench.
2. At 1,932 feet, Crater Lake in Oregon, is the deepest lake in the United States. The world's deepest lake, Lake Baykal in Russia, is 3,383 feet deeper. Draw a bar model to find how deep Lake Baykal is.

Spiral Review (4.NBT.3, 4.NBT.4)

3. Write a number that is greater than 832,458, but less than 832,500.

4. A stadium in Pennsylvania seats 107,282 people. A stadium in Arizona seats 71,706 people. Based on these facts, how many more people does the stadium in Pennsylvania seat than the stadium in Arizona?

5. What is 399,713 rounded to the place value of the underlined digit?

6. About 400,000 people visited an art museum in December. What could be the exact number of people who visited the art museum?

