Chapter 1

Name_____

Chapter 1 · Place Value Concepts

Dear Family,

In this chapter, your student is learning place value concepts. The lessons address how to identify the values of the digits in multi-digit numbers, read and write multi-digit numbers in different forms, and use place value to compare and round multi-digit numbers. The vocabulary words associated with this chapter are: period, ones period, thousands period, and place value chart.

Your student can practice place value concepts by playing a number game. Write the digits 0–9 on two sets of index cards, with one digit on each card.

- Have your student select four index cards and arrange them to create a four-digit number. Then, have your student identify which digit is in each place value. Ask, "Which is the hundreds digit? The thousands?" Repeat using the cards to create five- and six-digit numbers.

- Give your student one set of the number cards and keep one for yourself. Each of you selects cards to create a four-digit number. Take turns identifying each other's number and writing it in standard form, word form, and expanded form. Repeat with five- and six-digit numbers.

- Select cards to create a four-digit number and have your student do the same. Take turns identifying the greater number and explaining your reasoning. Repeat with five- and six-digit numbers. Then, round the numbers to the nearest ten, hundred, thousand, ten thousand, and hundred thousand.

- State a rounded number, such as 500,000. Have your student use the cards to create two numbers that round to the given number. For example, say, "What is one number that rounds to 500,000 when rounded to the nearest hundred thousand? What is another number that rounds to 500,000?" Repeat using various rounded numbers and place values.

By the end of this chapter, your student should feel confident with the learning targets and success criteria on the next page. Encourage your student to look for numbers to round and compare, such as prices, page numbers in books, and numbers on license plates.

Have a great time practicing place value!

Lesson	Learning Target	Success Criteria
1.1 Understand Place Value	Identify the values of digits in multi-digit numbers.	• I can identify the first six place value names. • I can identify the value of each digit in a number. • I can compare the values of two of the same digits in a number.
1.2 Read and Write Multi-Digit Numbers	Read and write multi-digit numbers in different forms.	• I can write a number in standard form. • I can read and write a number in word form. • I can write a number in expanded form.
1.3 Compare Multi-Digit Numbers	Use place value to compare two multi-digit numbers.	• I can explain how to compare two numbers with the same number of digits. • I can use the symbols <, >, and = to compare two numbers.
1.4 Round Multi-Digit Numbers	Use place value to round multi-digit numbers.	• I can explain which digit I use to round and why. • I can round a multi-digit number to any place.

Nombre _____

Capítulo 1 **Conceptos de valor posicional**

Querida familia:

En este capítulo, su estudiante está aprendiendo conceptos de valor posicional. Las lecciones son para identificar los valores de los dígitos en números de varias cifras, leer y escribir números de varias cifras en diferentes formas, y usar el valor posicional para comparar y redondear números de varias cifras. Algunas palabras de vocabulario asociadas con este capítulo son: posición, posición de las unidades, posición de los miles, y tabla de valor posicional.

Su estudiante puede practicar conceptos de valor posicional jugando con los números. Escriba los dígitos del 0 al 9 para dos grupos de fichas, con un dígito por cada ficha.

- Haga que su estudiante seleccione cuatro fichas y las ordene para crear un número de cuatro cifras. Luego, haga que su estudiante identifique cual dígito está en cada valor posicional. Pregúntele, "¿Cuál es el dígito en la posición de las centenas? ¿Cuál en la posición de los miles?". Repita usando las fichas para crear números de cinco y seis cifras.

- Dele a su estudiante un grupo de las fichas de números y tome una para usted. Cada uno seleccione fichas para crear un número de cuatro cifras. Tomen turnos para identificar el número del otro y escríbanlo en su forma estandar, forma de palabra, y forma expandida. Repitan con números de cinco y seis cifras.

- Seleccione fichas para crear un número de cuatro cifras y que su estudiante haga lo mismo. Tomen turnos para identificar el número más grande y expliquen su razonamiento. Repitan con números de cinco y seis cifras. Luego, redondear los números a la decena más cercana, centena, miles, diez miles, y centenas de miles.

- De un número redondeado, por ejemplo 500,000. Haga que su estudiante use las fichas para crear dos números que redondeen al número dado. Por ejemplo, "¿Qué número redondea a 500,000 con respecto a la centena de miles más cercana? ¿Qué otro número redondea a 500,000?". Repita usando varios números redondeados y diferentes valores posicionales.

Al final de este capítulo, su estudiante debe sentirse seguro sobre los objetivos de aprendizaje y criterios de éxito que se indican en la siguiente página. Anime a su estudiante a observar números de cifras para redondear y comparar, como precios, números de página en libros, y números de placas de licencia.

¡Diviértanse practicando el valor posicional!

Conceptos de valor posicional (continuación)

Lección	Objetivo de aprendizaje	Criterios de éxito
1.1 Entendiendo el valor posicional	Identificar los valores de los dígitos en un número de varias cifras.	• Sé identificar el nombre del valor de las seis primeras posiciones. • Sé identificar el valor de cada dígito en un número. • Sé comparar dos valores de un mismo dígito en un número.
1.2 Leer y escribir números de varias cifras	Leer y escribir números de varias cifras en diferentes formas.	• Sé escribir un número en forma estandar. • Sé leer y escribir un número en forma de palabra. • Sé escribir un número en forma expandida.
1.3 Comparar números de varias cifras	Usar el valor posicional para comparar dos números de varias cifras.	• Sé explicar cómo comparar dos cifras con la misma cantidad de dígitos. • Sé usar los símbolos <, >, y = para comparar dos números.
1.4 Redondear números de varias cifras	Usar el valor posicional para redondear dos números de varias cifras.	• Sé explicar cuál dígito uso para redondear y por qué. • Sé redondear un número de varias cifras a cualquier valor posicional.

Daily Skills Practice
For use before Lesson 1.1

1. You have 6 baskets of apples. Each basket has 2 apples. How many apples do you have in all? Use the number line to help.

```
0  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15
```
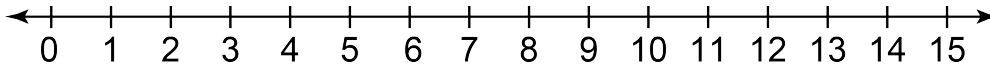
There are _____ apples in all.

Vocabulary Practice
For use before Lesson 1.1

1. Write what you know about this phrase. Give an example.

standard form

Prerequisite Skills Practice
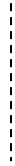
For use before Lesson 1.1

Circle the value of the underlined digit.

1. 40<u>7</u>   7   70   700

---

2. <u>5</u>36   5   500   50

Name _____

Extra Practice

Write the value of the underlined digit.

1. 45,<u>7</u>18	**2.** 8<u>2</u>,015	**3.** 14,78<u>9</u>	**4.** <u>6</u>2,397
5. 248,3<u>1</u>1	**6.** <u>9</u>25,583	**7.** 7<u>2</u>3,610	**8.** 19<u>4</u>,762
9. 403,<u>2</u>27	**10.** <u>5</u>61,284	**11.** 315,6<u>7</u>5	**12.** 67<u>6</u>,219

Compare the values of the underlined digits.

13. <u>4</u>25 and <u>4</u>,037	**14.** <u>3</u>,715 and <u>3</u>41,095
15. 9<u>7</u>0 and 1<u>7</u>,525	**16.** 8,3<u>2</u>5 and 6,54<u>2</u>

17. A member of the track team runs 6 miles per hour. A car can drive 60 miles per hour. The car is how many times faster than the runner?

_____

18. A CD is on sale for $9. A computer is on sale for $900. The computer cost how many times more money than the CD?

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Resources by Chapter

19. In the number 45,823, is the value in the thousands place 10 times the value in the hundreds place? Explain.

20. Write the greatest number possible using each number card once. Then write the least six-digit number possible.

| 7 | 2 | 4 | 6 | 5 | 8 |

Greatest: _____   Least: _____

21. In the number 32,376, is the value in the ten thousands place 10 times the value in the hundreds place? Explain.

22. Write the greatest number possible using each number card once. Then write the least four-digit number possible.

| 8 | 1 | 3 | 9 |

Greatest: _____   Least: _____

Use the table.

23. The land area of which state has a 2 in the thousands place?

24. What is the value of the digit 9 in the land area of Georgia? in the land area of Hawaii? How do these values relate to each other?

25. Compare the value of the 3s in the land area of South Carolina.

U.S. State	Land Area (square miles)
Georgia	59,425
Hawaii	10,931
Kentucky	40,410
Ohio	44,825
South Carolina	32,030
West Virginia	24,230

Name _____

The 5 in this number is in the ten thousands place. It has a value of 5 ten thousands, or 50,000.

A **place value chart** shows the value of each digit in a number. Each place has a value that is 10 times the value of the place to its right.

Thousands Period			Ones Period		
X10	X10	X10	X10	X10	
Hundreds	**Tens**	**Ones**	**Hundreds**	**Tens**	**Ones**
2	5	4,	9	3	6
2 hundred thousands	5 ten thousands	4 thousands	9 hundreds	3 tens	6 ones
200,000	50,000	4,000	900	30	6

Place values are grouped on the chart. Each group is called a **period**. The periods in a number are separated by commas.

Example

Thousands Period			Ones Period		
Hundreds	**Tens**	**Ones**	**Hundreds**	**Tens**	**Ones**
3	6	2,	2	4	7

- The number in standard form is 362,247.
- The value of the digit 3 is 3 hundred thousands, or 300,000.
- The value of the digit 2 in the thousands place is 2,000.
- The value of the digit 2 in the hundreds place is 200.
- The value of the digit 2 in the thousands place is 10 times the value of the digit 2 in the hundreds place.

Write the value of the underlined digit.

1. 46,931   **2.** 256,780   **3.** 581,429   **4.** 726,439

Compare the values of the underlined digits.

5. 30 and 300   **6.** 8,000 and 800

Name _____

Enrichment and Extension

Write a number to answer each riddle.

1. I have 5 digits.

One digit has a value of 3,000.

One digit has a value of 70,000.

One digit has a value of 400 and is 10 times the value of another digit.

What is the greatest number I can be?

_____

2. I have 5 digits.

One digit has a value of 50.

One digit has a value of 80,000.

The thousands digit is 100 times the value of the tens digit.

What is the least number I can be?

_____

3. I have 6 digits.

One digit has a value of 9.

One digit has a value of 300.

The digit with the greatest place value is 7.

The thousands digit is 10 times the value of the hundreds digit.

What is the least number I can be?

_____

4. I have 5 digits.

One digit has a value of 5,000.

The digit with the greatest place value is 6.

The digit with the least place value is 4.

The hundreds digit is 100 times the value of another digit.

What is the greatest number I can be?

Daily Skills Practice
For use before Lesson 1.2

1. Find the product.

$0 \times 5 = $ _____

Lesson 1.2 **Vocabulary Practice**
For use before Lesson 1.2

1. Write what you know about this word. Give an example.

period

Prerequisite Skills Practice
For use before Lesson 1.2

Write the value of the underlined digit.

1. 41,<u>3</u>07

2. 5<u>6</u>4,901

Name _____

Write the number in two other forms.

1. Standard form:

Word form:

Expanded form: 200,000 + 50,000 + 4,000 + 300 + 90 + 7

---

2. Standard form:

Word form: thirty-five thousand, forty-seven

Expanded form:

**3.** Standard form: 923,706

Word form:

Expanded form:

---

4. Standard form:

Word form: sixty-one thousand, three hundred fifteen

Expanded form:

---

5. Complete the table.

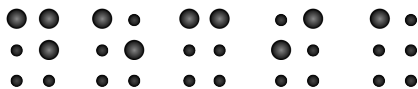| Standard Form	Word Form	Expanded Form
5,426		
		70,000 + 2,000 + 10 + 3
407,023		
	eight hundred three thousand, twelve	

6. Your teacher asks the class to write twenty thousand, four hundred seventy-five in standard form. Which student wrote the correct number? What mistake did the other student make?

Student A   Student B
20,475   24,075
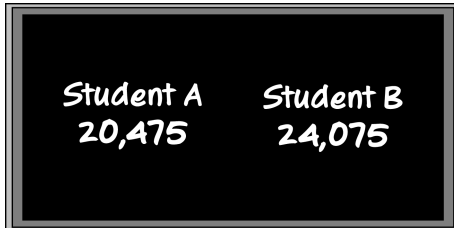
7. What is the number? The number has two periods. The thousands period is written as five hundred ten thousand in word form. The ones period is written as 90 + 8 in expanded form.

8. Use the table to write the number in standard form, word form, and expanded form.

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

9. Use the table above to write the number in standard form, word form, and expanded form.

10. Use the number 7,000 + 200 + 3 to complete the check.

Name _____

Use place value to write numbers in expanded form.

Example Write the number in standard form, word form, and expanded form.

| Thousands Period			Ones Period		
Hundreds	**Tens**	**Ones**	**Hundreds**	**Tens**	**Ones**
		4,	7	2	5

Standard form: 4,725

Word form: four thousand, seven hundred twenty-five

Expanded form: 4,000 + 700 + 20 + 5

Use a comma between periods in standard and word form. Use a hyphen between two-word numbers from 21 to 99 when writing in word form.

Example Write the number in standard form, word form, and expanded form.

Thousands Period			Ones Period		
Hundreds	**Tens**	**Ones**	**Hundreds**	**Tens**	**Ones**
7	0	2,	0	5	1
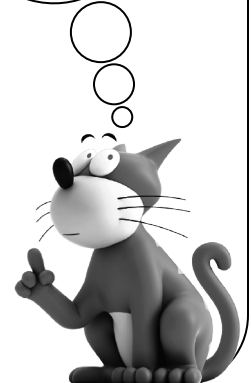
Standard form: 702,051

Word form: seven hundred two thousand, fifty-one

Expanded form: 700,000 + 2,000 + 50 + 1

Write the number in two other forms.

1. Standard form: 24,520

Word form: _____

Expanded form: _____

2. Standard form: _____

Word form: three hundred two thousand, four hundred

Expanded form: _____

Name _____

Enrichment and Extension

Use the code below to represent a number. Write the number in standard form, word form, and expanded form. Use each digit only once in each number.

1	2	3	4	5	6	7	8	9	0
★	▲	♥	☽	♦	●	■	❯	⬆	✚

1. Create a 4-digit number using the code.

Code:

Standard form:

Word form:

Expanded form:

2. Create a 5-digit number using the code.

Code:

Standard form:

Word form:

Expanded form:

3. Create a 6-digit number using the code.

Code:

Standard form:

Word form:

Expanded form:

Daily Skills Practice

For use before Lesson 1.3

1. Use the number line to solve.

   For an activity, 15 students are divided into 3 groups. How many students are in each group?

   0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
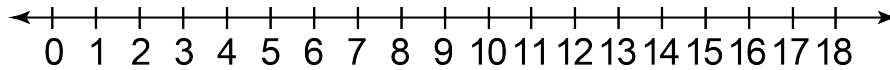
   15 ÷ 3 = _____

Vocabulary Practice

For use before Lesson 1.3

1. Write what you know about this word. Give an example.

   equivalent

Prerequisite Skills Practice
For use before Lesson 1.3

Compare.

1. 475 $\bigcirc$ 481

2. 305 $\bigcirc$ 35

Name _____

Extra Practice

Write which place to use when comparing the numbers.

1. 31,492 31,681	**2.** 725,124 732,063	**3.** 194,025 192,376
4. 20,954 20,937	**5.** 528,620 379,201	**6.** 954,677 955,892
7. 471,204 463,017	**8.** 14,381 12,515	**9.** 267,462 267,530

Compare.

10. 4,521 ◯ 4,530	**11.** 48,250 ◯ 49,123	**12.** 613,426 ◯ 612,578
13. 300,000 ◯ 30,000	**14.** 2,237 ◯ 3,136	**15.** 73,841 ◯ 80,950
16. 917,333 ◯ 917,421	**17.** 940,713 ◯ 876,924	**18.** 55,328 ◯ 55,327
19. 6,358 ◯ 6,361	**20.** 92,605 ◯ 92,506	**21.** 7,000 ◯ 600,000
22. 36,431 ◯ 36,413	**23.** 8,830 ◯ 8,645	**24.** 521,984 ◯ 507,699

Compare.

25. 24,650 ◯ 20,000 + 4,000 + 600 + 5

26. thirty-five thousand ◯ 350,000

27. seven hundred thousand, twenty-six ◯ 726,000

28. four hundred ten thousand, sixty-five ◯ 410,605

29. 675,419 ◯ 600,000 + 70,000 + 5,000 + 400 + 10 + 9

30. 307,982 ◯ 300,000 + 70,000 + 900 + 80 + 2

31. Two different canoes cost $2,275 and $2,075. Which is the lesser price?

32. If the leftmost digits of two multi-digit numbers are both 7, can you explain which number is greater? Explain.

33. Which digits do you compare first when comparing multi-digit numbers? Explain.

34. Use the table to answer the questions.

Name two cities that have a greater population than Seattle. Name two cities that have a population that is less than Boston.

City Population	
Boston, MA	673,184
Baltimore, MD	614,664
Charlotte, NC	842,051
Detroit, MI	672,795
Fort Worth, TX	854,113
Seattle, WA	704,352

Name _____

Lesson 1.3   **Reteach**

Example Compare 7,245 and 7,218.

Start at the left. Compare the digits in each place value until the digits are different.

Thousands Period			Ones Period		
Hundreds	Tens	Ones	Hundreds	Tens	Ones
		7,	2	4	5
		7,	2	1	8

Step 1: Compare the thousands.
7 thousands = 7 thousands

Step 2: Compare the hundreds.
2 hundreds = 2 hundreds

Step 3: Compare the tens.
4 tens > 1 ten

The tens digits are different, so you don´t have to compare the ones.

So, 7,245 > 7,218.

Write which place value to use when comparing the numbers.

1. 3,524
    3,810

2. 8,315
    7,920

3. 25,781
    25,726

Compare.

4. 6,348 ◯ 6,572

5. 8,270 ◯ 8,291

6. 57,011 ◯ 56,123

Big Ideas Math: Modeling Real Life Grade 4
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Name _____

Enrichment and Extension

1. Use the digits below to make two numbers that are compared by looking at the thousands digits. Use the numbers to complete the comparisons.

6 7 1 4 3 8 7 4 2 6

___ ___ , ___ ___ ___ > ___ ___ , ___ ___ ___

---

2. Use the digits below to make two numbers that are compared by looking at the hundreds digits. Use the numbers to complete the comparisons.

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

___ ___ ___ , ___ ___ ___ < ___ ___ ___ , ___ ___ ___

---

3. Use the digits below to make two numbers that are compared by looking at the ten thousands digits. Use the numbers to complete the comparisons.

8 2 3 2 3 6 5 8 9 6 9 5

___ ___ ___ , ___ ___ ___ > ___ ___ ___ , ___ ___ ___

1. Round to the nearest ten to estimate the difference.

$$
\begin{array}{r}
502 \\
- 127 \\
\hline
\end{array}
$$

1. Write what you know about this phrase. Give an example.

place value

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Resources by Chapter

Prerequisite Skills Practice

For use before Lesson 1.4

Round the number to the nearest ten.

1. 347

_____

Round the number to the nearest hundred.

2. 648

Name _____

Round the number to the place value of the underlined digit.

1. 7,9<u>3</u>2	**2.** 4,<u>1</u>76	**3.** <u>9</u>,531	**4.** 3<u>1</u>,427
5. <u>6</u>7,025	**6.** 13,<u>6</u>20	**7.** 73,8<u>5</u>4	**8.** 10<u>7</u>,231
9. 4<u>9</u>5,148	**10.** 524,3<u>2</u>7	**11.** 925,<u>7</u>38	**12.** <u>3</u>61,950

Round the number to the nearest thousand.

13. 2,395	**14.** 54,614
15. 47,208	**16.** 8,542

Round the number to the nearest ten thousand.

17. 206,324	**18.** 784,675
19. 873,615	**20.** 125,399

Round the number to the nearest hundred thousand.

21. 471,302	**22.** 82,427

23. 147,319	**24.** 728,916

25. Round ★ to the nearest thousand and to the nearest ten thousand.

5,000   5,500   6,000
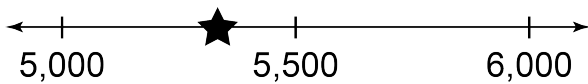
Nearest thousand: _____

Nearest ten thousand: _____

26. Which numbers round to 500,000 when rounded to the nearest hundred thousand?

526,725	583,000	548,900
453,215	445,999	54,285

27. When discussing the price of a video game, should you round to the nearest ten or the nearest hundred? Explain.

28. Newton says 29,675 rounds to 20,000 when rounded to the nearest thousand. Is he correct? Explain.

29. A car sales person sells several cars. The price of each car, rounded to the nearest thousand, is $24,000. Which could be the prices of the cars he sells?
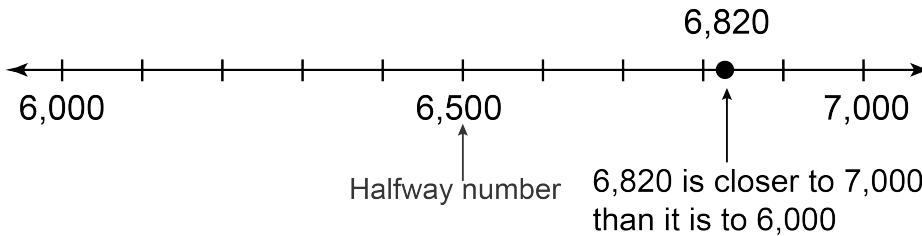
$23,450 $24,395 $24,675

$23,590 $24,499

Name _____

Reteach

You can use a number line or place value to round a number. Find the closest multiple of 10, 100, 1,000, and so on.

Example Use a number line to round 6,820 to the nearest thousand.

6,820

6,000   6,500   7,000

Halfway number   6,820 is closer to 7,000 than it is to 6,000

So, 6,820 rounded to the nearest thousand is 7,000.

- -

Example Use place value to round 425,350 to the nearest ten thousand.

ten thousands place   5 = 5

4 2 5, 3 5 0

4 3 0, 0 0 0
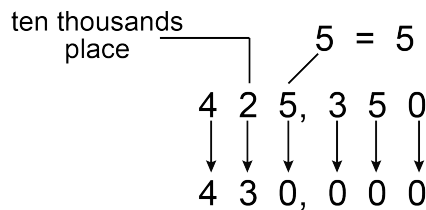
Look at the digit to the right of the rounding digit. If it is 5 or greater, the rounding digit increases by 1.

The digit to the right of the ten thousands place is 5. The ten thousands digit increases by 1.

So, 425,350 rounded to the nearest ten thousand is 430,000.

Round the number to the place of the underlined digit.

1. 3,725	2. 54,103	3. 39,650	4. 273,475

5. Round 671,340 to the nearest hundred thousand.

6. Round 8,215 to the nearest thousand.

Name _____

Enrichment and Extension

1. A number rounds to 6,500 when rounded to the nearest hundred. It rounds to 6,000 when rounded to the nearest thousand. What is one number that it could be? Round the number to the nearest ten.

2. A number rounds to 45,000 when rounded to the nearest thousand. It rounds to 50,000 when rounded to the nearest ten thousand. What is one number that it could be? Round the number to the nearest hundred and the nearest ten.

3. A number rounds to 750,000 when rounded to the nearest ten thousand. It rounds to 700,000 when rounded to the nearest hundred thousand. What is the greatest number it can be? Round the number to the nearest thousand, the nearest hundred, and the nearest ten.

4. A number rounds to 350,000 when rounded to the nearest ten thousand. It rounds to 400,000 when rounded to the nearest hundred thousand. What is the least number it can be? Round the number to the nearest thousand, the nearest hundred, and the nearest ten.

Name _____

Chapter Self-Assessment

Use the scale below to rate your understanding of the learning target and the success criteria.

1	*2*	*3*	*4*
I do not understand.	I can do it with help.	I can do it on my own.	I can teach someone else.

	Rating
1.1 Understand Place Value	
Learning Target: Identify the values of digits in multi-digit numbers.	1 2 3 4
I can identify the first six place value names.	1 2 3 4
I can identify the value of each digit in a number.	1 2 3 4
I can compare the values of two of the same digits in a number.	1 2 3 4
1.2 Read and Write Multi-Digit Numbers	
Learning Target: Read and write multi-digit numbers in different forms.	1 2 3 4
I can write a number in standard form.	1 2 3 4
I can read and write a number in word form.	1 2 3 4
I can write a number in expanded form.	1 2 3 4
1.3 Compare Multi-Digit Numbers	
Learning Target: Use place value to compare two multi-digit numbers.	1 2 3 4
I can explain how to compare two numbers with the same number of digits.	1 2 3 4
I can use the symbols <, >, and = to compare two numbers.	1 2 3 4
1.4 Round Multi-Digit Numbers	
Learning Target: Use place value to round multi-digit numbers.	1 2 3 4
I can explain which digit I use to round and why.	1 2 3 4
I can round a multi-digit number to any place.	1 2 3 4