Place Value in Whole Numbers

Family Note In this lesson your child explored the relationships between place values in numbers. Have your child read each number below. Examine the digit 6 in each number.

Hundred-Thousands	Ten-Thousands	Thousands	Hundreds	Tens	Ones
600,000	60,000	6,000	600	60	6

When the digit 6 moves left one place, its value becomes 10 times as large as it was in the previous place. For example, 60 is 10 times as large as 6, and 600 is 10 times as large as 60.

(1) **a.** The 8 in 203,810 is worth _____.   **b.** The 6 in 56,143 is worth _____.

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     c. The 7 in 573,090 is worth _____.   **d.** The 1 in 140,007 is worth _____.

(2) How does the value of the digit 4 in 489 differ from the value of the digit 4 in 5,741?

_____

_____

(3) **a.** The value of 8 in 56,982 is _____ times as large as the value of 8 in 156,408.

     b. The value of 8 in 800 is _____ times as large as the value of 8 in 80.

     c. The value of 9 in 4,934 is _____ times as large as the value of 9 in 1,290.

(4) **a.** Write the number that has . . .
     7 in the thousands place
     6 in the ten-thousands place
     5 in the hundreds place
     8 in the ones place
     3 in the tens place

     _____ _____ , _____ _____ _____

     b. On the back of this page, write this number in words.

Practice

(5) $9 + 8 =$ _____   (6) $7 + 8 =$ _____   (7) $30 + 80 =$ _____

(8) _____ $= 50 + 40$ (9) _____ $= 17 + 94$ (10) $158 + 93 =$ _____

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Country Sizes

This table shows the sizes of 10 countries measured in square miles.

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Use a place-value tool to help you answer the questions.

Country	Area (in square miles)
Algeria	919,600
Colombia	439,700
Ethiopia	426,400
Egypt	386,700
Greece	50,900
Iran	636,400
Laos	91,400
Peru	494,200
Uganda	93,100

Source: worldatlas.com (All data rounded to nearest hundred.)

(1) Read the numbers to someone at home.

(2) Which is the largest country listed?

_____

The smallest? _____

(3) Compare the areas of Laos and Uganda.

    a. Which country has the larger area? _____ How do you know?

    _____

    _____

    b. Write a comparison number sentence. _____

(4) Order the countries from largest area to smallest area.

Country	Area (in square miles)

Practice

(5) $140 - 60 =$ _____

(6) _____ $= 57 - 39$

(7) $115 - 86 =$ _____

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Rounding

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(1) Round the seating capacities in the table below to the nearest thousand.

Women's National Basketball Association (WNBA) Seating Capacity of Home Courts		
Team	Seating Capacity	Rounded to the Nearest 1,000
Chicago Sky	17,500	
Connecticut Sun	9,518	
Indiana Fever	18,165	
Los Angeles Sparks	13,141	
Minnesota Lynx	19,356	
Phoenix Mercury	18,422	
Seattle Storm	17,072	
Tulsa Shock	17,839	
Washington Mystics	20,308	

Source: www.wnba.com

(2) Look at your rounded numbers. Which teams' arenas have about the same capacity?

_____

(3) Round the population figures in the table below to the nearest hundred-thousand.

U.S. States with the Five Smallest Populations (2010 Census)		
State	Population	Rounded to the Nearest 100,000
Wyoming	563,626	
Vermont	626,011	
North Dakota	699,628	
Alaska	731,449	
South Dakota	833,354	

Practice

(4) _____ = 60 + 60   (5) _____ = 54 + 59   (6) 185 + 366 = _____

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Professional Sports Attendance

The table below shows the attendance for various 2013–2014 professional sports teams. Use the table and a place-value tool to answer the questions.

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	Chicago*	New York*†	Philadelphia	Boston	Washington
Hockey	927,545	738,246	813,411	720,165	740,240
Baseball	2,882,756	3,542,406	3,565,718	3,043,003	2,370,794

Source: ESPN NHL Attendance report 2013–2014 and ESPN MLB Attendance report 2012
*Baseball attendance is for the Chicago Cubs and the New York Yankees.
†Hockey attendance is for the New York Rangers.

1. Which sport had the greater attendance? _____

2. Round the attendance at the hockey games.

	Nearest 100,000	Nearest 10,000
Chicago		
New York		
Philadelphia		
Boston		
Washington		

3. Round the attendance for each baseball team to the nearest million.

   Chicago: _____   New York: _____

   Philadelphia: _____   Boston: _____

   Washington: _____

4. List the cities in order from greatest to least hockey attendance.

   _____

5. Write a number sentence comparing the greatest and least baseball attendances. Use <, >, or =.

   _____

Practice

6. 210 − 150 = _____   7. 140 − 80 = _____   8. 93 − 58 = _____

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Using Estimation Strategies

> **Family Note** Today students explored different ways of estimating: **rounding** (in which all numbers are rounded to a particular place value), **front-end estimation** (all digits to the right of the greatest place value become zeros), and using **close-but-easier numbers** (numbers are rounded to a number that is close in value and easy to work with). While all methods of estimation are equally valid, some may be more helpful than others for answering specific kinds of questions.

Read the number stories. Choose an appropriate estimation strategy.

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① On the walk home from school, Meg stopped at the library for 22 minutes and at her grandmother's house for 38 minutes. She spent 17 minutes walking. She left at 3:00 and was supposed to be home by 4:00.

    a. Did Meg make it home on time? _____ How did you get your answer?

    _____

    _____

    b. Why did you choose your estimation strategy? _____

    _____

    _____

② You and two friends need to make 100 tacos for a party. You have made 31 tacos. Your friend Chris has made 24 tacos. Your friend Pat thinks he needs to make at least 60 tacos to have enough for the party.

    a. Is Pat correct? _____ How did you get your answer?

    _____

    _____

    b. Why did you choose your estimation strategy? _____

    _____

    _____

Practice

③ $31 + 51 =$ _____   ④ $45 + 64 =$ _____   ⑤ $252 + 144 =$ _____

Animal Number Stories

Estimate. Then solve each number story.

1. The zoo needs to move four animals in a truck that can carry only 700 pounds. A leopard can weigh up to 176 pounds. A warthog can weigh up to 250 pounds. A chimpanzee can weigh as much as 130 pounds. What is the maximum weight that the fourth animal can be?

    Estimate: About _____ pounds

    Answer: _____ pounds

    Number model with answer: _____

    Does your answer make sense? _____ How do you know?

    _____

    _____

2. The combined weight of a mountain lion, an orangutan, and a wolf can be as much as 491 pounds. If the wolf weighs 175 pounds and the orangutan weighs 180 pounds, how much do *two* mountain lions weigh?

    Estimate: About _____ pounds

    Answer: _____ pounds

    Number model with answer: _____

    Does your answer make sense? _____ How do you know?

    _____

    _____

    Source: maximum animal weights from www.nationalgeographic.com

Practice

3. $5 + 8 =$ _____

4. $9 + 6 =$ _____

5. $70 + 50 =$ _____

6. _____ $= 80 + 50$

7. $67 + 94 =$ _____

8. _____ $= 425 + 275$

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