Use What You Know

You’ve learned how to round three-digit numbers to the nearest ten or hundred. Take a look at rounding larger numbers.

A toothpaste company surveyed 36,219 customers about their favorite toothpaste flavor. The data will be used to help the company decide what flavors to continue making. To the nearest thousand, about how many customers were surveyed?

a. To which place-value position are you asked to round? __________________

b. Count by thousands: 30,000; 31,000; 32,000; _________; _________; _________; _________; _________; _________;

c. Between which two thousands is the number 36,219? __________________

d. How far from 36,000 is 36,219? __________

e. Explain how you could find, to the nearest thousand, about how many customers were surveyed.

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Find Out More

You round numbers to estimate and to make numbers easier to work with when you don’t need an exact answer.

You can use a number line to round 36,219 to the nearest thousand. The closest thousand less than 36,219 is 36,000. The closest thousand greater than 36,219 is 37,000. Which thousand is 36,219 closer to?

The number 36,219 rounded to the nearest thousand is 36,000 because it is closer to 36,000 than to 37,000.

What if 36,500 customers were surveyed? That number is exactly halfway between 36,000 and 37,000. Follow the rounding rule, “If a number is exactly halfway between, round up.”

So, the number 36,500 rounded to the nearest thousand is 37,000.

Reflect

1. Use the rule, “If a number is exactly halfway between, round up” to explain how to round 1,500 to the nearest thousand.
Read the problem below. Then explore how to use a number line to solve a problem that involves rounding.

Last year, Tanaka’s Toys spent $117,290 developing a new video game. This year, the company spent $175,000 on the game. Round the amounts spent to the nearest ten thousand. Then, find about how much more Tanaka’s Toys spent on the game this year than last year.

**Model It**  You can use a number line to round $117,290 to the nearest ten thousand.

Find the closest ten thousands that are less than 117,290 and greater than 117,290. 117,290 is between 110,000 and 120,000.

$117,290 rounded to the nearest ten thousand is $120,000.

**Model It**  You can use a number line to round $175,000 to the nearest ten thousand.

Find the closest ten thousands that are less than 175,000 and greater than 175,000. 175,000 is between 170,000 and 180,000.

$175,000 rounded to the nearest ten thousand is $180,000.
**Connect It**  Now you will solve the problem from the previous page.

2 Why do you round $117,290 up to $120,000?

3 Why do you round $175,000 up to $180,000?

4 After you round both amounts, how do you estimate how much more Tanaka’s Toys spent on the game this year than last year?

5 About how much more did Tanaka’s Toys spend this year?

6 Choose any five-digit number. Write it here. Explain how to round a five-digit number to the nearest ten thousand.

**Try It**  Use what you just learned to solve these problems. Show your work on a separate sheet of paper.

7 Mr. Ruiz’s class wants to collect 2,000 water bottles to recycle. So far, they have collected 1,376 water bottles. Round each amount to the nearest hundred. Then find about how many more bottles the class needs to collect.

8 Round 649,418
to the nearest ten: 

to the nearest hundred: 

to the nearest thousand: 

to the nearest ten thousand: 

to the nearest hundred thousand: 
Study the example below. Then solve problems 9–11.

Example

The tallest building in Martin’s city is 1,729 feet tall. The tallest building in Peggy’s city is 1,065 feet tall. To the nearest hundred feet, about how much taller is the building in Martin’s city than the building in Peggy’s city?

Look at how you could show your work using number lines.

Round each number to the nearest hundred.

\[
\begin{array}{c}
1,729 \quad & \quad 1,065 \\
1,700 & \quad 1,800 & \quad 1,000 & \quad 1,100 \\
1,700 - 1,100 = 600
\end{array}
\]

Solution

about 600 feet

9 Smallville has 12,548 people registered to vote. In the last election, only 4,685 people voted. To the nearest thousand, about how many registered voters did not vote?

Show your work.

Solution
10 Grandview Golf makes wooden golf tees. In 2010, they made 380,285 tees. In 2011, they made 512,525 tees. To the nearest ten thousand, how many tees did they make in the two years?  

Show your work.

Solution

11 Movie Mart shipped 264,398 DVDs to its customers last year. To the nearest ten, how many DVDs did Movie Mart ship? Circle the letter of the correct answer.

A  264,300  
B  264,390  
C  264,400  
D  265,000  

Elin chose C as the correct answer. Explain how she got her answer.
Solve the problems.

1. The distances four hot air balloons traveled are listed below.

   Balloon A: 6,559 kilometers
   Balloon B: 6,545 kilometers
   Balloon C: 6,547 kilometers
   Balloon D: 6,553 kilometers

Leah rounds the distances the balloons traveled to the nearest ten. Which distance does NOT round to 6,550 kilometers?

   A  6,559 kilometers
   B  6,545 kilometers
   C  6,547 kilometers
   D  6,553 kilometers

2. Phoebe’s Bait and Tackle sold 128,107 live worms in April and 102,278 live worms in May. To the nearest thousand, how many worms did Phoebe’s Bait and Tackle sell in April and May together?

   A  200,000
   B  230,000
   C  230,400
   D  230,390

3. Which numbers have been rounded correctly to the nearest thousand? Circle the letter for all that apply.

   A  12,500 $\rightarrow$ 13,000
   B  1,445 $\rightarrow$ 2,000
   C  29,607 $\rightarrow$ 30,000
   D  498 $\rightarrow$ 500
4 A is an unknown number. When you round A to the nearest thousand, you get 21,000. When you round A to the nearest hundred, you get 20,500.

Write A in the box that shows its location on the number line.

20,000 20,500 21,000

5 Round 5,563 to the nearest thousand, to the nearest hundred, and to the nearest ten. If you could pay a $5,563 bill with a rounded amount, which place value would you rather round to? If you could choose a rounded amount for a $5,563 prize in a contest, which place value would you rather round to?

Show your work.

6 Nadia’s father bought a new camera, lens, and case. He rounded the cost of all the items to estimate how much money he would need. He rounded the cost of the camera to $800, the cost of the lens to $500, and the cost of the case to $200. The actual cost of all three items was $1,489. What could the actual costs of the items be?

Show your work.

Answer    camera  lens    case

Self Check Go back and see what you can check off on the Self Check on page 1.