LESSON 11

Rounding to Hundreds

Multiple-Digit Addition with Regrouping

As we have been doing and always will do, add the units first. There may come a time when a student is so proficient at adding multiple digit numbers that he will add from the left, but this is down the road and not the way the decimal system operates. At this juncture, always add from right to left, from smaller to larger. Remember that you add units to units, tens to tens, and hundreds to hundreds. Whenever you add two numbers, always add the same values. "To combine, you must be the same kind." Here are two examples followed by the same problems worked out with place value notation and regular notation. If you have lined paper I suggest you turn it sideways to help keep the values in the proper places.

Rounding and Estimating to Hundreds

When adding large numbers, encourage the student to estimate the answer before solving it. We have learned how to round and estimate to the tens place, and now we want to increase our understanding by rounding and estimating to the hundreds place.

When you round a number to the nearest multiple of 100, there will be a number in the hundreds place but only a zero in the tens and units places, which are to the right of the hundreds place. It doesn't matter what numbers are present in the other place values, only the number to the immediate right of the place value being considered—in this case the tens place. This number determines whether to stay the same or be increased by one. I tell the students this is why we call it rounding, because the tens and units are going to be a "round" zero.

Example 1
Round 383 to the nearest hundreds place.

The first step is to find the two multiples of a hundred that are nearest to 383. The lower one is 300 and the higher one is 400; 383 is between 300 and 400. If the student has trouble finding these numbers, begin by placing your finger over the 83, so that all you have is a 3 in the hundreds place, which is 300. Then add one more to the hundreds to find the 400. I often write the numbers 300 and 400 above the number 383 on both sides as in figure 1.

Figure 1

300 383 400

Look at the number in the tens place. Does it fall in 0 through 4 or in 5 through 9? Since it is an 8, it is in the latter group, which means we round up to the next number, 400. Rounded to the nearest hundred, 383 is 400.

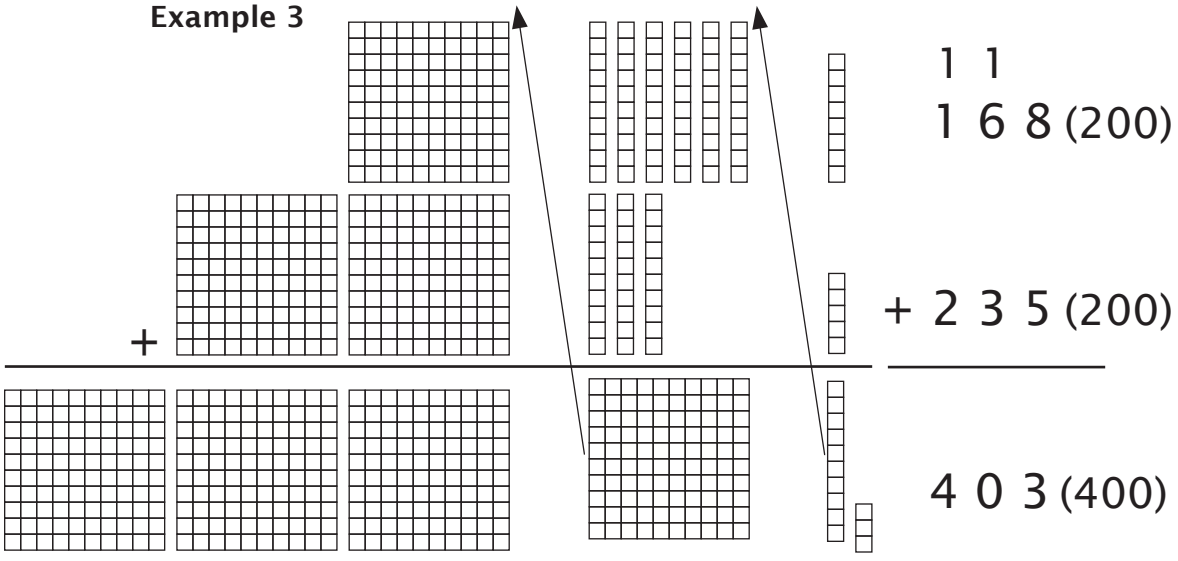
Example 2
Round 547 to the nearest hundreds place.

500 547 600 1. Find the multiples of one hundred nearest to 547.

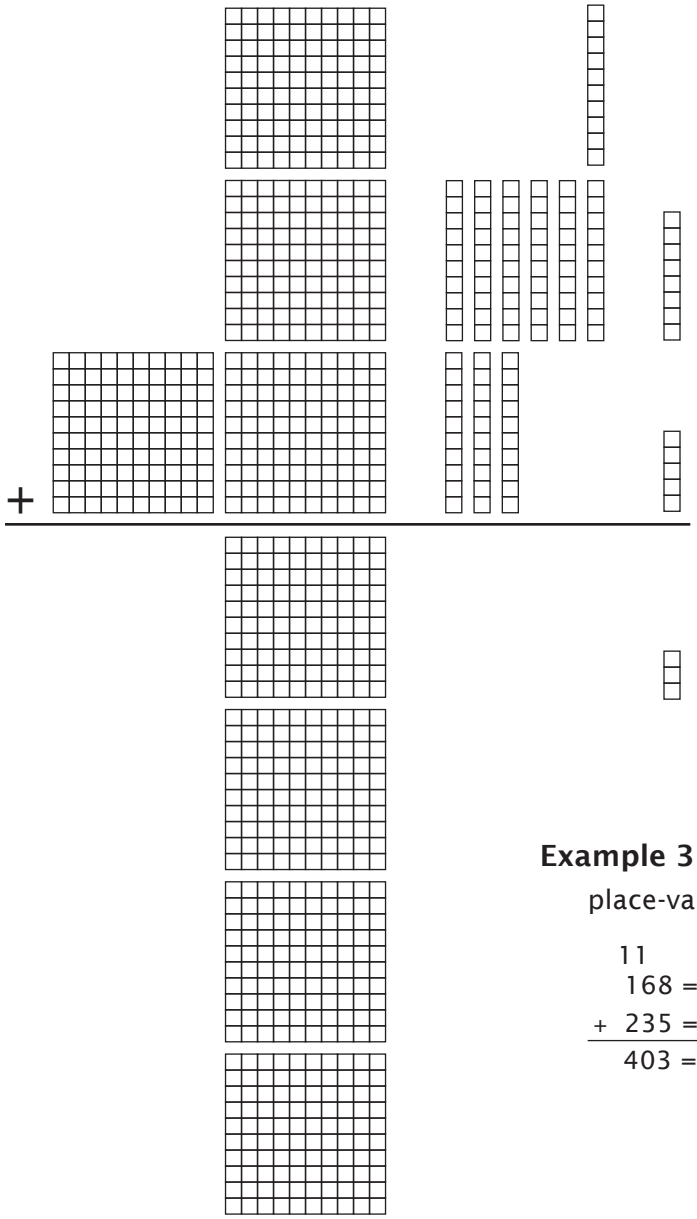
500 547 600 2. We know that 4 goes to the lower number, 500.

In examples 3 and 4, the estimates are to the right in parentheses.

Example 3



Example 3 (continued) Five units plus 8 units equals 13, which is 1 ten and 3 units. We move the ten (or carry it) to the tens place as indicated by the arrow. Then 6 tens plus 3 tens plus the 1 ten from the result of adding in the units place equals 1 hundred. The 1 hundred is moved to the hundreds place as shown by the second arrow. Adding all the hundreds gives us the answer of 4 hundreds, 0 tens, and 3 units or 403. The picture below shows the result after regrouping.



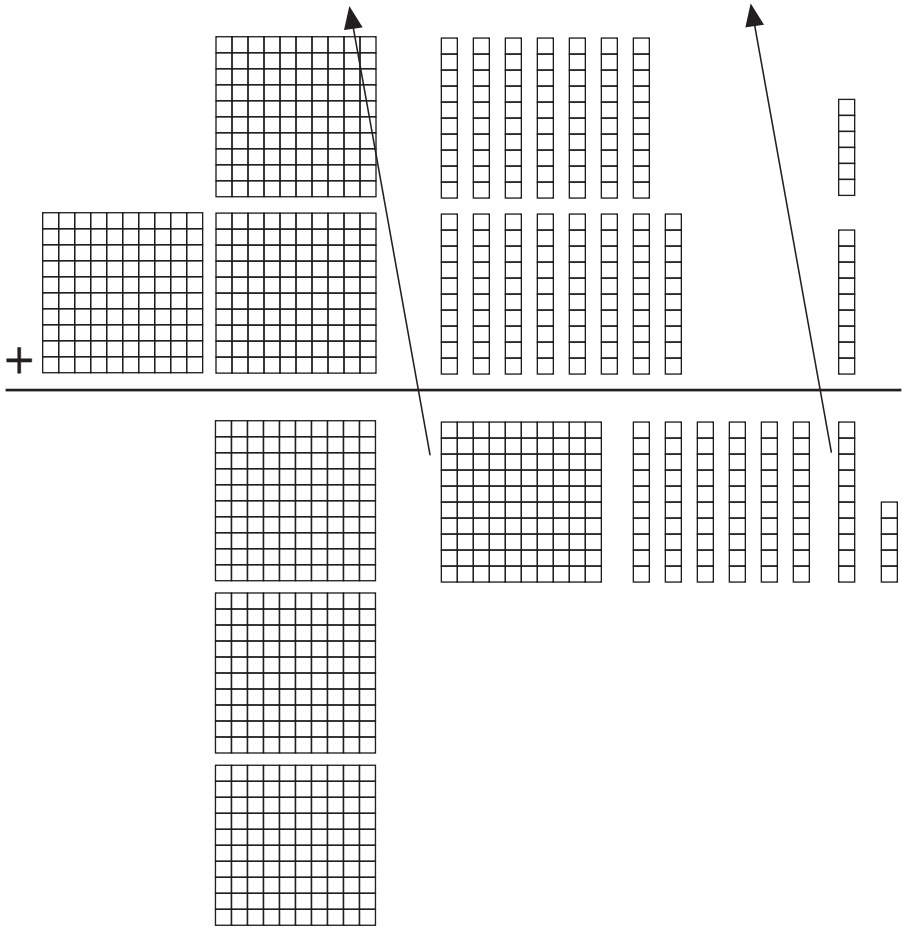
1 1
1 6 8 (200)
+ 2 3 5 (200)

4 0 3 (400)

Example 3

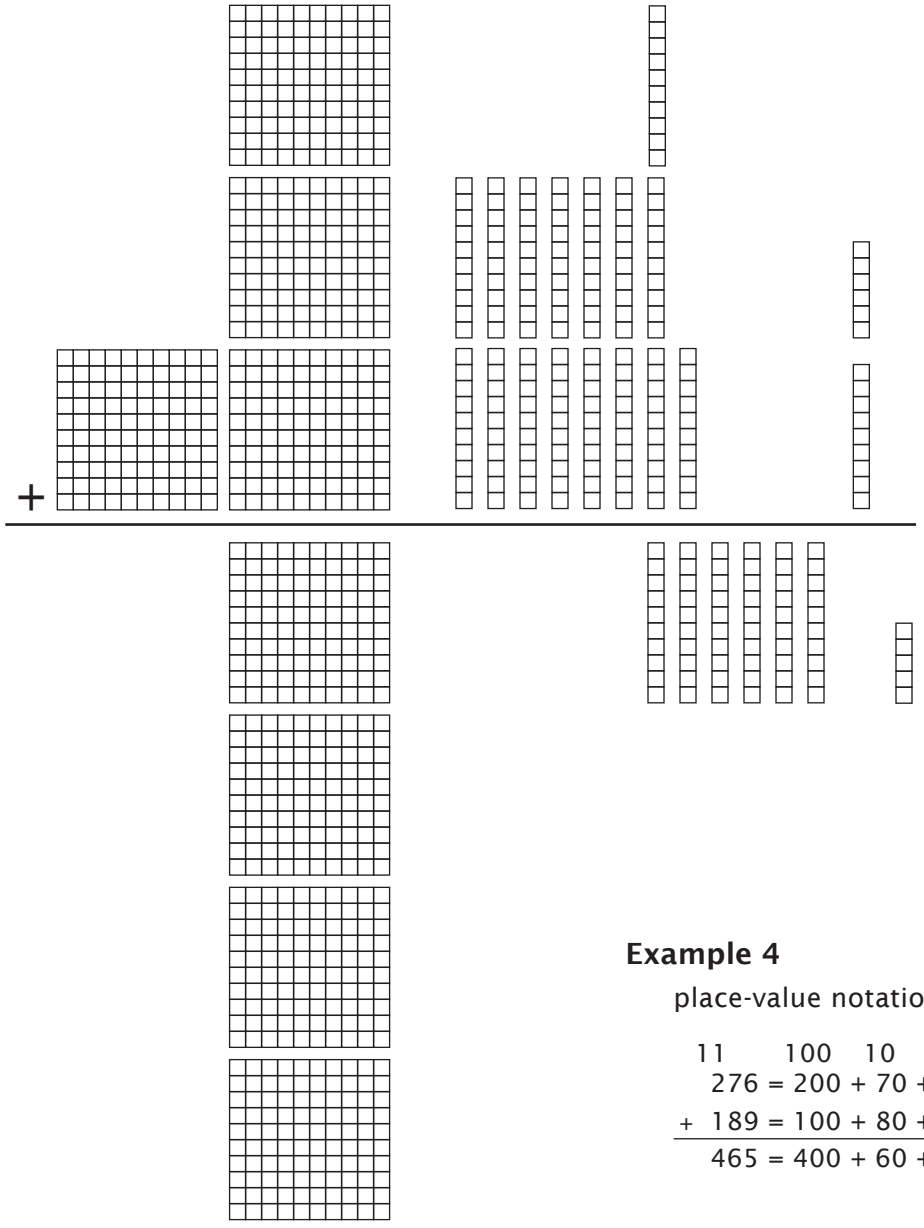
place-value notation	regular notation
11 100 10	11
168 = 100 + 60 + 8	168
+ 235 = 200 + 30 + 5	+ 235
403 = 400 + 3	403

Example 4



1 1
2 7 6 (300)
+ 1 8 9 (200)

4 6 5 (500)



1 1
2 7 6 (300)

+ 1 8 9 (200)

4 6 5 (500)

Example 4

place-value notation	regular notation
11 100 10	11
276 = 200 + 70 + 6	276
+ 189 = 100 + 80 + 9	+ 189
465 = 400 + 60 + 5	465