

Core Focus


- Number: Representing, writing, comparing, and ordering three-digit numbers
- Addition: Working with all strategies

Number


- Students connect how a three-digit number is written as a numeral with how it is said and written in words, and how that number is modeled using various tools, including **base-10 blocks** and **numeral expanders**. They examine how a number can be broken down (e.g. 3 groups of 100, 5 groups of 10, and 6 ones), focusing on three-digit numbers that have zeros or end in teens.
- Students continue to read the tens and ones together. Therefore, 504 is read as *five hundred four*, and 316 is read as *three hundred sixteen*.

3.3 Number: Writing three-digit numbers and number names

Step In What number is shown by this picture of blocks?



How do you know?
Write the number on the expander.



How would you write the number without the expander?
Do you still need to write the zero to describe the tens? Why?

How would you write the number in words?
_____ hundred _____

In this lesson, students use numeral expanders and base-10 blocks to write numerals and number names.


- Students use place value to compare three-digit numbers using language such as *is greater than* or *is less than*.

3.6 Number: Comparing three-digit numbers

Step In The wingspan of an airplane is the distance between the tips of its wings.

Look at the wingspans of these airplanes.

Plane	Wingspan
A	214 feet
B	199 feet
C	147 feet
D	156 feet



Which plane has the longest wingspan? How did you figure it out?
Which place in the numbers did you look at first? Why?

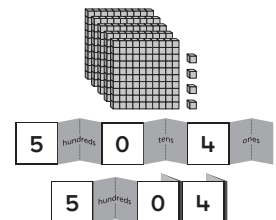
In this lesson, students use their knowledge of place value to compare three-digit numbers.

Ideas for Home

- Write the following numbers each on a small piece of paper: 0, 0, 0, 1, 1, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Mix the pieces face-down, turn over three at a time, and ask your child to read the number. Position a zero or one in the tens place for extra practice.
- Using the same pieces of paper, have your child create two three-digit numbers. Ask them to compare the two numbers using language like “is greater than” or “is less than.” Be sure to ask how they know.
- Look for three-digit numbers in everyday life, such as grocery shopping (comparing prices) or traveling (highway numbers or house numbers).

Glossary

- ▶ **Base-10 blocks** and **numeral expanders** model place value in different ways, helping students deepen their understanding of the base-10 number system.



- Finally, students connect three-digit numbers to their positions in relation to other numbers on a number line.

3.7 Number: Comparing to order three-digit numbers

Step In Look at each game score card.

GAME 1	POINTS	GAME 2	POINTS
Riku	452	Alicia	368
William	524	Morgan	386
Wendell	254	Grace	380

Who won each game? How do you know?
What place in the numbers did you look at first?
Which place did you look at next?

Use any three of these digits.

① ② ③ ④ ⑤ ⑥

Write the greatest three-digit number that is possible.

How did you decide what number to write?

Write two different three-digit numbers using any of the digits above.

Look at the three numbers you wrote.
Rewrite them in order from least to greatest.

In this lesson, students place three-digit numbers in order from least to greatest, and then from greatest to least.

Addition

- Becoming confident with powerful mental strategies, such as **make-ten** and use-doubles, is important for extending addition and subtraction to larger numbers. By now, students have been taught a range of strategies and now work to perfect them.
- Paper-and-pencil methods will come after students gain extensive practice with simple mental calculations. By focusing on basic mathematical principles before teaching these pencil-and-paper methods, students understand why these methods work, instead of simply executing a procedure.

3.11 Addition: Working with all strategies

Step In What addition fact would you write to match this domino?

How would you figure out the total number of dots?
What strategy could you use?

I would use the make-ten strategy. See $9 + 7$ and think $10 + 6$.

Counting on is too slow. I would use a double.

Circle the domino that shows an addition fact that you would solve by counting on.

What other addition facts would you solve by using the count-on strategy?

In this lesson, students choose an addition strategy to find the total

Ideas for Home

- To reinforce the make-ten strategy, separate the 4–6 playing cards from a deck into one stack and the 7–9 cards into another stack. Flip over the top card from each stack and ask your child to find the total. Ask them to describe their strategy.

Glossary

► Make-ten strategy

The make-ten strategy is a mental calculation method for adding numbers that are close to ten. For example, using this strategy, students see $9 + 6$, but think $10 + 5$.

Helpful videos

View these short one-minute videos to see these ideas in action.

www.bit.ly/OI_24

www.bit.ly/OI_7