

Core Focus

- Subtraction: one- and two-digit numbers from three-digit numbers, and reinforcing two- and three-digit numbers

Subtraction

- Students have practiced many mental subtraction strategies with one- and two-digit numbers. Extending these strategies to three-digit numbers is a natural progression.

10.2 Subtraction: Two-digit numbers from three-digit numbers beyond 200

Step In Jessica scored 285 points in a math game. She scored 32 points more than her old record.

How could you figure out Jessica's old record?
Ryan figured out the difference on a number line.

What steps did he follow?
How could you figure out the difference with fewer jumps?
Ricardo crossed out blocks to help figure out the difference.

How many hundreds are left over? How many tens? How many ones?

In this lesson, students examine strategies to subtract two-digit numbers from three-digit numbers.

- **Number charts**, base-10 blocks, and number lines are used as aids to make the thinking visible and help students connect their strategies to the sizes of the numbers involved.

10.5 Subtraction: Counting on or back with three-digit numbers

Step In Imagine you had \$349 in savings. Which of these items could you buy?

How could you figure out how much money you would have left over?
Thomas chose the drums. He figured out $\$349 - \136 like this.

Janice chose the guitar. She figured out $\$349 - \235 like this.

In this lesson, students explore two different place-value strategies to subtract three-digit numbers.

- Subtraction problems in this module involve numbers that do not require regrouping (regrouping 1 ten as 10 ones, or 1 hundred as 10 tens).

Ideas for Home

- Ask your child to count back by tens or hundreds from any two-digit or three-digit number. Challenge them to count past 100: starting at 136 and counting back by tens is 136, 126, 116, 106, 96, 86.
- Create a set of cards with the digits 0–9, shuffle them, and place them facedown. Take turns drawing five cards and using the digits to form a subtraction problem (two-digit number from a three-digit number) that is easy to solve. Discuss the strategies you use.

Glossary

- A **number chart** looks similar to a hundred chart (0 to 100), but shows numbers greater than 100 and/or a section of numbers between 0 and 100.

91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130

Subtraction

- It is important that students have extended experience in **decomposing** (pulling apart) numbers (for example, 342 can be split into 3 hundreds, 4 tens, and 2 ones, or 2 hundreds, 14 tens, and 2 ones, and so on).
- Thinking about regrouping 1 hundred as 10 tens, or 1 ten as 10 ones is important background experience for subtraction with numbers that require regrouping.

10.6 Subtraction: Decomposing three-digit numbers

Step In Look at this picture of blocks.

What number does it show?

What could you do with the blocks to make 14 ones blocks and keep the total the same?

I could regroup 1 tens block as 10 ones blocks. That makes 14 ones blocks and the total does not change.

In this lesson, students work with regrouping numbers where a ten or a hundred has to be decomposed.

- Another strategy students use is counting back jump by jump on a number line. They use their knowledge of basic facts to jump back to friendly numbers, usually multiples of ten or a hundred.

10.7 Subtraction: One-digit numbers from three-digit numbers (decomposing tens)

Step In Look at this picture of blocks.

What number does it show?

How would you change the blocks so that you could take away 5 ones blocks?

I need more ones, so I could regroup a tens block as 10 ones blocks. Then it is easy to take away the 5 ones. $163 - 5 = 158$.

How would you figure out $163 - 5$?

I could picture a number line and jump back 3 to 160 then 2 more to 158.

In this lesson, students are encouraged to use a range of strategies to subtract one-digit numbers from three-digit numbers.

Ideas for Home

- To encourage your child to think about decomposing numbers, discuss some real-world examples with them. For example, ten dimes and a dollar bill both equal \$1.00, and in the same way 10 cents can be one dime or ten pennies.

Glossary

- Students **decompose** numbers by place value. In other words, one ten can be regrouped as ten ones. **Composing** is the reverse: regrouping ten ones as one ten.

a. 265 is equal to 1 hundred, tens, and ones