

Core Focus

- Addition: Two- and three-digit numbers
- Addition: Composing three-digit numbers
- Length: Centimeters and meters

Addition

- Students extend their addition strategies to three-digit numbers. They may count on (e.g. see $334 + 30$ and *think* $334 + 10 + 10 + 10$), or use place value (e.g. see $334 + 253$ and *think* $334 + 200 + 50 + 3$, or 3 hundreds + 2 hundreds + 3 tens + 5 tens + 4 ones + 3 ones).

9.2 Addition: Two- and three-digit numbers

Step In A school play is being held in the gym.

Last week, 453 tickets were sold. An extra 32 tickets were sold yesterday. How could you figure out the total number of tickets that have been sold?

José showed his thinking on a number line.

What other jumps could be made to figure out the total?

Abigail used blocks to help figure out the total.

How many hundreds are there in total? How many tens? How many ones?

In this lesson, students examine strategies to add two-digit numbers to three-digit numbers that do not involve **bridging**.

- It is important that students have extended experience in composing numbers because thinking about **regrouping** 10 tens as 1 hundred, or 10 ones as 1 ten, is an important skill for adding numbers that require regrouping.

9.4 Addition: Composing three-digit numbers

Step In Look at this picture of blocks.

What number does it show? How do you know?

What could you do with the ones blocks to make 4 tens blocks and keep the total the same?

I could regroup 10 ones blocks as 1 tens block. That makes 4 tens blocks and the total does not change.

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

- Students solve addition problems that require regrouping. In the problem from the lesson (9.5) on the next page, students add $193 + 24$. Adding 9 tens and 2 tens gives 11 tens. Students regroup these 11 tens as 1 hundred and 1 ten, so $193 + 24 = 217$.

Ideas for Home

- Continue to practice the make-ten strategy with your child (e.g. see $27 + 4$ and *think* $27 + 3$ equals 30 and one more is 31). This strategy helps your child when they use a number line to add two- and three-digit numbers.
- Ask your child to count on by tens or hundreds from any two-digit or three-digit number. Challenge them to count past 100. E.g. starting at 74 and counting on by tens is “74, 84, 94, 104, 114, 124.”

Glossary

- ▶ **Bridging** is composing across place values. E.g. adding 18 and 5 is bridging from ones to tens. Eight ones and five ones is 13 ones, which is also one ten and three ones.

7 hundreds, 16 tens, and 2 ones
is the same value as

- ▶ **Regrouping** is a method of bridging involving exchanging one place for an equivalent quantity of another. E.g. 2 tens can be regrouped as 20 ones.

- Base-10 blocks and number lines are used to assist students to connect their existing strategies to understand three-digit numbers.

9.5 Addition: One- and three-digit numbers (composing tens)

Step In Look at these pictures of blocks.

What numbers do they show?
What is the total?
What would you do with the 16 ones?

What is another way you could figure out the total?

I could use a number line like this.

How would you add the numbers in your head?

In this lesson, students use a place-value strategy to add two- and three-digit numbers that involve bridging across one place.

- Students choose a strategy to solve an addition problem with three-digit numbers. They write number sentences to show their thinking and compare their strategies.

9.8 Addition: Reinforcing three-digit numbers

Step In Logan's family is buying some things to take on vacation. What do you think they will be doing?

How could you figure out the total cost of the tent and the chair?
What equations could you write to show your thinking?

Giselle added the places like this:

$$\begin{array}{r} 400 + 0 = 400 \\ 30 + 20 = 50 \\ 5 + 3 = 8 \\ 400 + 50 + 8 = 458 \end{array}$$

Katherine counted on the places like this:

$$\begin{array}{r} 435 + 20 = 455 \\ 455 + 3 = 458 \end{array}$$

Which method would you use to add numbers like this? Why?

Length

- Two new units of measurement are introduced: the **centimeter** and **meter**.
- Students use benchmarks when estimating lengths. E.g. your finger may be about 1 cm thick and a doorway may be a bit more than 2 m high.

9.11 Length: Introducing meters

Step In What do you know about meters?

Running races in the Olympic Games use meters. I know there is a 100-meter race and a 400-meter race.

A short way to write meter is m.

Four students threw small beanbags as part of a game. These flags show where their beanbags landed.

The distance between Hailey's throw and Andre's throw is one meter.
What do you think the distance is between Luke's throw and Leila's throw?

In this lesson, students measure and compare the distances a beanbag has been thrown.

Ideas for Home

- Use a ruler marked with both inches and centimeters to measure the length of some favorite objects at home. Ask your child to compare the different results, e.g. a plush toy might be 11 inches or 28 centimeters long.
- Cut a 10 centimeter piece of string or strip of paper. Ask your child to estimate and then measure the distance between two objects using the piece of string or paper. E.g. they can measure the distance between the lamp and book on the shelf.
- Take turns at tossing a small ball or beanbag. Ask your child to estimate and then measure the distance of the throw to the nearest whole meter.

Glossary

- A **centimeter** (cm) is about half an inch.
- A **meter** (m) is a little longer than one yard.
- 100 cm = 1 m