Core Knowledge® MATHEMATICS

Adding Within 100

Teacher Guide

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Adding Within 100

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Teacher Guide

Core Knowledge Mathematics™

Unit 5: Adding within 100

At a Glance

Unit 5 is estimated to be completed in 15-16 days including 2 days for assessment.

This unit is divided into three sections including 13 lessons and 1 optional lesson.

- Section A—Add without Making a Ten (Lessons 1-4)
- Section B—Make a Ten: Add One- and Two-digit Numbers (Lessons 5-8)
- Section C—Make a Ten: Add Within 100 (Lessons 9-14)

On pages 6-7 of this Teacher Guide is a chart that identifies the section each lesson belongs in and the materials needed for each lesson.

This unit uses seven student centers.

- Five in a Row: Addition and Subtraction
- Number Puzzles: Addition and Subtraction
- Greatest of Them All
- Target Numbers
- Mystery Number
- Grab and Count
- Get Your Numbers in Order

Unit 5: Adding Within 100

Unit Learning Goals

- Students use place value understanding and properties of operations to add within 100.

In this unit, students add within 100, using place value and properties of operations in their reasoning.

Previously, students composed, decomposed, and compared numbers within 100. They reasoned about units of tens and ones and represented numbers with connecting cubes, base-ten drawings, expressions, and equations in different ways (for example, $65 = 60 + 5$ and $65 = 50 + 15$). Here, they build on these understandings of place value to find sums.

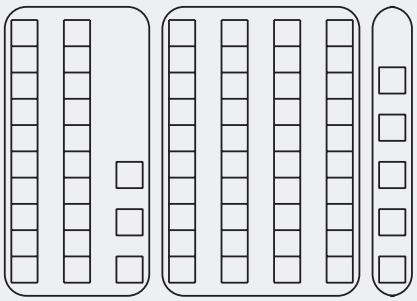
Students begin by adding a two-digit number with another two-digit number or with a one-digit number where it is not necessary to compose a new ten. Then, they observe cases in which adding some ones together require composing a new ten.

Two broad methods for finding sums are explored: adding on by place (adding on tens, then ones), and adding units by place (combining tens with tens and ones with ones).

Along the way, they also compare methods from earlier work, such as counting on and making use of known sums, including sums of 10.

$23 + 45$

Add on tens, then add on ones:



To make sense of methods for adding (especially as it relates to composing a ten when adding ones and ones), students work with a variety of representations—connecting cubes in towers of 10 and singles, base-ten drawings, expressions, and equations. They also use different representations to share their thinking with others.

Expressions and equations are presented horizontally here to encourage students to make sense of the numbers and ways of adding rather than apply an algorithm. Eventually, they write equations to represent their thinking. For example, to find the sum of $52 + 46$, they might write:

$52 + 40 = 92$
$92 + 6 = 98$

or

$50 + 40 = 90$
$2 + 6 = 8$
$90 + 8 = 98$

Students are not expected to write or use equations in any specific way. Even in activities that focus on interpreting and writing equations, students should have continued access to drawings and other tools for sense making. Provide access to connecting cubes in towers of 10 and singles throughout the unit.

Section A: Add Without Making a Ten

Standards Alignments

Addressing	1.NBT.A.1, 1.NBT.B.2, 1.NBT.C.4, 1.OA.A.1, 1.OA.C.6, 1.OA.D.8
Building Towards	1.NBT.C.4

Section Learning Goals

- Add within 100 without composing a ten.
- Use equations to represent addition methods.

In this section, students add a two-digit number and a one- or two-digit number without composing a ten. They build on the work of prior units, in which they added one-digit numbers and teen numbers without composing a ten, and added multiples of 10 to two-digit numbers. Here, students see that when adding two-digit numbers they can add like units: tens and tens, and ones and ones.

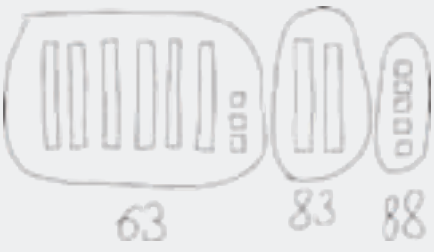
When adding, students may use connecting cubes or drawings to show the grouping of tens and of ones and to compose a new unit of ten. They are encouraged to explain, connect, and compare their methods for finding the value of sums. Monitor for the language students use to describe their methods and emphasize vocabulary related to place value. Give students opportunities to revise their explanations and add to their representations for clarity and precision (MP6).

At the end of the section, students write equations to represent their thinking. They may write a single equation that shows the sum ($52 + 46 = 98$) or they may write a series of equations to represent how they solved the problem ($50 + 40 = 90$, $2 + 6 = 8$, $90 + 8 = 98$).

Here are 2 drawings students made for $63 + 25$.

Elena's work

Andre's work



Which equations go with which drawing?

Set A	*Set B*
$63 + 20 = 83$	$60 + 20 = 80$
$83 + 5 = 88$	$3 + 5 = 8$
	$80 + 8 = 88$

PLC: Lesson 2, Activity 1, Find the Value

Section B: Make a Ten: Add One- and Two-digit Numbers

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.C.6, 1.OA.D.8

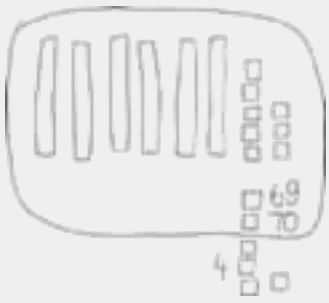
Section Learning Goals

- Add a one-digit and a two-digit number within 100 with composing a ten.
- Use equations to represent addition methods.

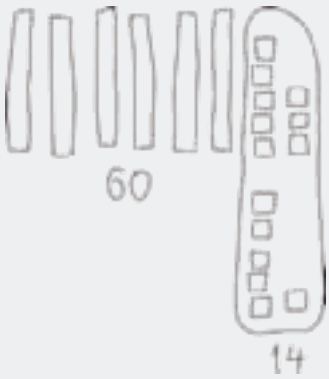
In this section, students learn that sometimes when adding two-digit numbers within 100, it is necessary to compose a ten from ones. They draw on the idea of making a ten, which they learned when adding ones and when adding numbers within 20.

Students may not initially consider composing a new unit of ten when adding numbers. They may count on by ones, or count on by place (count on by tens and by ones separately). They may also count on to the next ten, but not connect their counting to a new unit of ten.

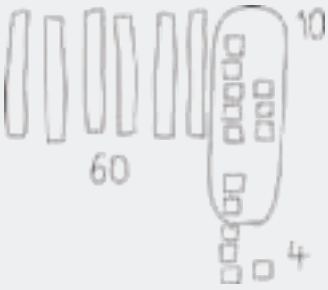
Counting on:
68, 69, 70, 74



Adding ones and ones, then tens



Adding ones and ones, composing a ten explicitly



Other students may see that they can group 10 ones to make a new unit of ten (as they did when counting collections). They may show this awareness by making a new tower of 10 with connecting cubes or by marking or labeling a group of 10 in their base-ten drawings.

To deepen their understanding of place value and properties of operations, give students opportunities to compare and connect different methods, as well as to connect their method to representations that make sense to them (not limited to connecting cubes or base-ten drawings).

Students who rely on using known facts to add within 20 may apply the same method when adding within 100. They should not be required to use cubes or create drawings. However, encourage them to use representations, including equations, as they explain to others how their method works.

PLC: Lesson 6, Activity 2, Elena and Andre Add

Section C: Make a Ten: Add Within 100

Standards Alignments

Addressing	1.NBT.A.1, 1.NBT.B, 1.NBT.B.3, 1.NBT.C.4, 1.NBT.C.5, 1.NBT.C.6, 1.OA.C.5, 1.OA.C.6, 1.OA.D.7, 1.OA.D.8
Building Towards	1.NBT.C.4

Section Learning Goals

- Add 2 two-digit numbers within 100, with composing a ten.
- Use equations to represent addition methods.

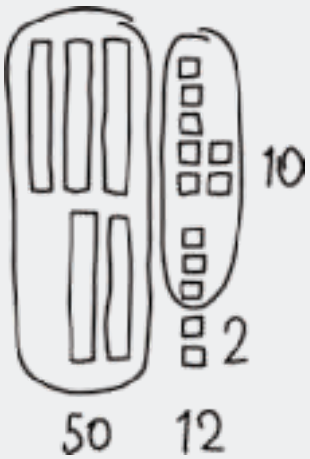
In this section, students apply what they learned about adding one- and two-digit numbers to add any numbers within 100—with and without composing a ten. They apply the associative and commutative properties as they count on, add tens and tens, and add ones and ones. Students see that no matter which order they use to combine parts of the addends, the sum remains the same.

They continue to use, interpret, and connect different methods and representations (including equations) that show a new unit of ten being composed from 10 ones.

Explain how Jada, Kiran, and Tyler each find the value of $37 + 25$.

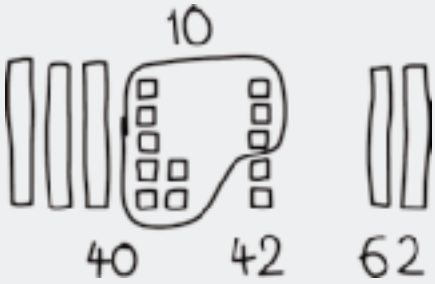
Jada's way

$30 + 20 = 50$
$7 + 5 = 12$
$50 + 12 = 62$



Kiran's way

$37 + 3 + 2 = 42$
$42 + 20 = 62$



Tyler's way

$37 + 20 = 57$
$57 + 3 + 2 = 62$

PLC: Lesson 12, Activity 2, Reason About Addition

Throughout the Unit

Throughout the unit, Number Talks and How Many Do You See warm-ups allow students to use methods flexibility to add and subtract within 100.

Students are introduced to new centers that support the work of this unit. Centers to revisit from previous units are also suggested in each section. Feel free to incorporate other centers that have been previously introduced based on student need and interest.

Optional activities are included in a few lessons throughout the unit. These activities offer continued practice adding within 100 while solving story problems that give students a sense of real-world contexts where this addition is necessary.

Materials Needed

LESSON	GATHER	COPY
A.1	• Connecting cubes in towers of 10 and singles • Number cards 0–10 • Paper clips (2-inch)	• none
A.2	• Connecting cubes in towers of 10 and singles • Paper clips • Two-color counters	• Five in a Row Addition and Subtraction Stage 5 Gameboard (groups of 2)
A.3	• Connecting cubes in towers of 10 and singles	• none
A.4	• Materials from previous centers	• Number Puzzles Addition and Subtraction Stage 3 Gameboard (groups of 2)
B.5	• Connecting cubes in towers of 10 and singles	• Add Em' Up Cards (2-digit and 1-digit numbers to 100) (groups of 2)
B.6	• Connecting cubes in towers of 10 and singles • Number cards 0–10	• Target Numbers Stage 1 Recording Sheet (groups of 1)
B.7	• Connecting cubes in towers of 10 and singles	• none
B.8	• Connecting cubes in towers of 10 and singles • Materials from previous centers • Number cards 0–10	• Target Numbers Stage 2 Recording Sheet (groups of 1)
C.9	• Connecting cubes in towers of 10 and singles	• none

C.10	• Connecting cubes in towers of 10 and singles • Materials from previous centers	• Number Puzzles Addition Stage 4 Gameboard (groups of 2)
C.11	• Connecting cubes in towers of 10 and singles • Tools for creating a visual display	• none
C.12	• Connecting cubes in towers of 10 and singles	• none
C.13	• Connecting cubes in towers of 10 and singles • Materials from previous centers • Number cubes • Paper clips • Two-color counters	• Target Numbers Stage 3 Recording Sheet (groups of 1) • Five in a Row Addition and Subtraction Stage 6 Gameboard (groups of 2)
C.14	• Connecting cubes in towers of 10 and singles	• none

Center: Five in a Row: Addition and Subtraction (1–2)

Stage 1: Add 1 or 2

Activities

- Grade1.5.A4.2 (supporting)
- Grade1.5.B8.2 (supporting)
- Grade1.5.C13.2 (supporting)

Stage Narrative

Students choose a number card 0-10 and choose to add 1 or 2 to the number on their card and then place their counter on the sum.

Standards Alignments

Addressing 1.OA.C.5

Materials to Gather

Number cards 0–10, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stages 1 and 2 Gameboard (groups of 2)

Additional Information

Each group of 2 needs 25 counters.

Stage 2: Subtract 1 or 2

Activities

- Grade1.5.A4.2 (supporting)
- Grade1.5.B8.2 (supporting)
- Grade1.5.C13.2 (supporting)

Stage Narrative

Students choose a number card 0-10 and choose to subtract 1 or 2 from the number on their card and then place their counter on the difference.

Variation:

Students can choose to add or subtract 1 or 2.

Standards Alignments

Addressing 1.OA.C.5

Materials to Gather

Number cards 0–10, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stages 1 and 2 Gameboard (groups of 2)

Additional Information

Each group of 2 needs 25 counters.

Stage 3: Add 7, 8, or 9

Activities

- Grade1.5.A4.2 (supporting)
- Grade1.5.B8.2 (supporting)
- Grade1.5.C13.2 (supporting)

Stage Narrative

Students choose a number card 0-10 and choose to add 7, 8, or 9 to the number on their card and then place their counter on the sum.

Standards Alignments

Addressing 1.OA.C.5, 1.OA.C.6

Materials to Gather

Number cards 0–10, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stage 3 Gameboard (groups of 2)

Additional Information

Each group of 2 needs 25 counters.

Stage 4: Add or Subtract 10

Activities

- Grade1.5.A4.2 (supporting)
- Grade1.5.B8.2 (supporting)
- Grade1.5.C13.2 (supporting)

Stage Narrative

Students choose a card that shows a multiple of 10. They choose whether to add or subtract 10 from the number on their card and then place their counter on the sum or difference.

Standards Alignments

Addressing 1.NBT.C.5

Materials to Gather

10-frames, Connecting cubes in towers of 10 and singles, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stage 4 Gameboard (groups of 2), Number Cards, Multiples of 10 (0-90) (groups of 2)

Additional Information

Each group of 2 needs 25 counters.

Stage 5: Add within 100 without Composing

Activities

- Grade1.5.A2.3 (addressing)
- Grade1.5.A4.2 (addressing)
- Grade1.5.B8.2 (addressing)
- Grade1.5.C13.2 (addressing)

Stage Narrative

Partner A chooses two numbers and places a paper clip on each number. They add the numbers and place a counter on the sum. Partner B moves one of the paper clips to a different number, adds the numbers, and places a counter on the sum. Students take turns moving one paper clip, finding the sum, and covering it with a counter.

Two gameboards are provided, one where students add a one-digit and a two-digit number and one where they add a two-digit and a two-digit number.

Standards Alignments

Addressing 1.NBT.C.4

Materials to Gather

Paper clips, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stage 5 Gameboard (groups of 2)

Additional Information

Each group of 2 needs 25 counters and 2 paperclips.

Stage 6: Add within 100 with Composing

Activities

- Grade1.5.C13.2 (addressing)

Stage Narrative

Partner A chooses two numbers and places a paper clip on each number. They add the numbers and place a counter on the sum. Partner B moves one of the paper clips to a different number, adds the numbers, and places a counter on the sum. Students take turns moving one paper clip, finding the sum, and covering it with a counter.

Standards Alignments

Addressing 1.NBT.C.4, 2.NBT.B.5

Materials to Gather

Paper clips, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stage 6 Gameboard (groups of 2)

Additional Information

Each group of 2 needs 25 counters and 2 paper clips.

Center: Number Puzzles: Addition and Subtraction (1–4)

Stage 1: Within 10

Activities

- Grade1.5.A4.2 (supporting)
- Grade1.5.B8.2 (supporting)
- Grade1.5.C13.1 (supporting)

Stage Narrative

Students work together to use digit cards to make addition and subtraction equations within 10 true. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.OA.D.8

Materials to Copy

Number Puzzles Addition and Subtraction Stage 1 Gameboard (groups of 2), Number Puzzles Digit Cards (groups of 2)

Stage 2: Within 20

Activities

- Grade1.5.A4.2 (supporting)
- Grade1.5.B8.2 (supporting)
- Grade1.5.C13.1 (supporting)

Stage Narrative

Students work together to use digit cards to make addition and subtraction equations within 20 true. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.OA.C.6, 1.OA.D.8, 2.OA.B.2

Materials to Copy

Number Puzzles Addition and Subtraction Stage 2 Gameboard (groups of 1), Number Puzzles Digit Cards (groups of 2)

Stage 3: Within 100 without Composing

Activities

- Grade1.5.A4.1 (addressing)
- Grade1.5.A4.2 (addressing)
- Grade1.5.B8.2 (addressing)
- Grade1.5.C13.1 (addressing)

Stage Narrative

Students work together to use digit cards to make addition and subtraction equations within 100 without composing true. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8

Materials to Copy

Number Puzzles Addition and Subtraction Stage 3 Gameboard (groups of 2), Number Puzzles Digit Cards (groups of 2)

Stage 4: Within 100 with Composing

Activities

- Grade1.5.C10.3 (addressing)

Stage Narrative

Students use digit cards to make addition and subtraction equations true. They work with sums and differences within 100 with composing and decomposing. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8, 2.NBT.B.5

Materials to Copy

Number Puzzles Addition Stage 4 Gameboard (groups of 2), Number Puzzles Digit Cards (groups of 2)

Center: Greatest of Them All (1–5)

Stage 1: Two-digit Numbers

Activities

- Grade1.5.A4.2 (supporting)

Stage Narrative

Students make two-digit numbers.

Variation:

Students try to make the number with the least value.

Standards Alignments

Addressing 1.NBT.B.3

Materials to Gather

Number cards 0–10

Materials to Copy

Greatest of Them All Stage 1 Recording Sheet (groups of 1)

Center: Target Numbers (1–5)

Stage 1: Add Ones

Activities

- Grade1.5.B6.3 (addressing)
- Grade1.5.B8.2 (addressing)
- Grade1.5.C13.1 (supporting)

Stage Narrative

Before playing, students remove the cards that show 0 and 10 and set them aside.

Students add a one-digit number to a two-digit number with composing a ten in order to get as close to 95 as possible. Students start their first equation with 55 and turn over a number card and add it to their starting number for the round. The sum becomes the first addend in the next round. The player who gets closest to 95 in 6 rounds, without going over, is the winner.

Standards Alignments

Addressing 1.NBT.C.4

Materials to Gather

Connecting cubes in towers of 10 and singles, Number cards 0–10

Materials to Copy

Target Numbers Stage 1 Recording Sheet (groups of 1)

Stage 2: Add Tens or Ones

Activities

- Grade1.5.B8.1 (addressing)
- Grade1.5.B8.2 (addressing)
- Grade1.5.C13.1 (supporting)

Stage Narrative

Before playing, students remove the cards that show 0 and 10 and set them aside.

Students add tens or ones to get as close to 95 as possible. Students start their first equation with 25. Students take turns flipping a number card and choosing whether to add that number of tens or ones and write an equation. The sum becomes the first addend in the next round. The player who gets closest to 95 in 6 rounds, without going over, is the winner.

Standards Alignments

Addressing 1.NBT.C.4

Materials to Gather

Connecting cubes in towers of 10 and singles, Number cards 0–10

Materials to Copy

Target Numbers Stage 2 Recording Sheet (groups of 1)

Stage 3: Add Two-digit Numbers

Activities

- Grade1.5.C13.1 (addressing)

Stage Narrative

Students add two-digit numbers to get as close to 95 as possible. Students start by rolling two number cubes to get a starting number. Then, they take turns rolling the three cubes to get a number to add. They choose one of the numbers on the cubes to represent the tens and a different number to represent the ones. Students add their tens and ones to the starting number. The sum becomes the first addend in the next round. The player who gets closest to 95 in 6 rounds, without going over, is the winner.

Standards Alignments

Addressing 1.NBT.C.4

Materials to Gather

Connecting cubes in towers of 10 and singles, Number cubes

Materials to Copy

Target Numbers Stage 3 Recording Sheet (groups of 1)

Additional Information

Each group of 2 needs three number cubes.

Center: Mystery Number (1–4)

Stage 1: Two-digit Numbers

Activities

- Grade1.5.C13.1 (supporting)

Stage Narrative

Students pick two cards and make a mystery two-digit number. Students give clues based on the sentence starters.

Standards Alignments

Addressing 1.NBT.B

Materials to Gather

Number cards 0–10

Materials to Copy

Mystery Number Stage 1 Directions (groups of 2)

Center: Grab and Count (K–1)

Stage 2: Ones Cubes

Activities

- Grade1.5.C13.2 (supporting)

Stage Narrative

Each student grabs a handful of ones cubes and puts them together with their partner's. They estimate how many cubes there are and then count the cubes. Students record their estimate and the actual number of cubes on the recording sheet.

Variation:

Students can count their own group of cubes first and record an equation to represent the total number of cubes.

Standards Alignments

Addressing 1.NBT.A.1

Materials to Gather

Base-ten blocks

Materials to Copy

Grab and Count Stage 2 Recording Sheet (groups of 1)

Additional Information

Each group of 2 needs around 80 ones cubes from the base-ten block set.

Stages used in Kindergarten

Stage 1

Addressing

- Kindergarten.6.B

Supporting

- Kindergarten.7.A

Center: Get Your Numbers in Order (1–5)

Stage 1: Two-digit Numbers

Activities

- Grade1.5.C13.2 (supporting)

Stage Narrative

Students remove the cards that show 10 before they start. Then they choose two number cards and make a two-digit number. Students write their number in any space on the board, as long as the numbers from left to right go from least to greatest. If students cannot place their number, they get a point. The player with the fewest points when the board is filled is the winner.

Standards Alignments

Addressing 1.NBT.B.3

Materials to Gather

Dry erase markers, Number cards 0–10, Sheet protectors

Materials to Copy

Get Your Numbers in Order Stage 1 Gameboard (groups of 2)

Section A: Add Without Making a Ten

Lesson 1: Add Tens or Ones

Standards Alignments

Addressing	1.NBT.A.1, 1.NBT.B.2, 1.NBT.C.4
Building Towards	1.NBT.C.4

Teacher-facing Learning Goals

- Add tens or ones to two-digit numbers, without composing a ten, in a way that makes sense to them.

Student-facing Learning Goals

- Let's add tens or ones to two-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to add tens or ones to two-digit numbers, without composing a ten, in a way that makes sense to them.

In a previous unit, students added within 20, including adding one-digit numbers and teen numbers. Students also added multiples of 10 and two-digit numbers within 100, using place value reasoning. In this lesson, students think about how two-digit numbers change when they add only ones or only tens. For example, in 24 + 3 = 27 students notice that the digit in the ones place changes when 3 is added to 24, while the digit in the tens place does not. In 24 + 30 = 54, students notice that the digit in the tens place changes, when 30 is added to 24 while the digit in the ones place does not. This lesson provides an opportunity for teachers to formatively assess student's work with addition from previous units.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR2 (Activity 1)

Instructional Routines

How Many Do You See? (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2
- Number cards 0–10: Activity 1
- Paper clips (2-inch): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How does the work of this lesson prepare students for adding 2 two-digit numbers in the next lesson?

Cool-down (to be completed at the end of the lesson)

5 min

Add a One-Digit and a Two-digit Number

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Find the number that makes each equation true.
Show your thinking using drawings, numbers, or words.

1. $5 + 52 =$ ☐

2. $50 + 29 =$ ☐

Student Responses

1. 57. Sample response: Draws 5 tens and circles them. Writes 50. Draws 2 ones and 5 more ones. Counts on, 51, 52, 53, 54, 55, 56, 57.

2. 79. Sample response: Draws 5 tens and 2 tens and circles them. Writes 70. Draws 9 ones and writes 9. $70 + 9 = 79$.

Begin Lesson

Warm-up

10 min

How Many Do You See: 10-frames

Standards Alignments

Addressing	1.NBT.A.1, 1.NBT.B.2
Building Towards	1.NBT.C.4

The purpose of this How Many Do You See is for students to subitize or use grouping strategies to describe the images they see. When students look for ways to see and describe numbers as groups of tens and ones and connect this to two-digit numbers, they look for and make use of the base-ten structure (MP7).

Instructional Routines

How Many Do You See?

Student-facing Task Statement

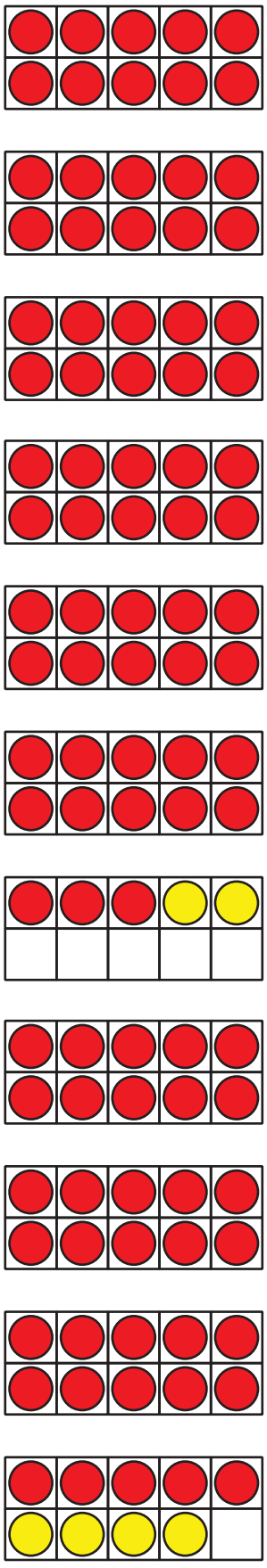
How many do you see?
How do you see them?

Launch

- Groups of 2
- "How many do you see? How do you see them?"
- Flash image.
- 30 seconds: quiet think time

Activity

- Display image.
- "Discuss your thinking with your partner."
- 1 minute: partner discussion



- Record responses.
- Repeat for each image.

Synthesis

- "How did we describe the second image using tens and ones? How many tens do you see? How many ones?" (Some people said they saw it as 3 tens and 5 ones.)
- "How could we describe the last image using tens and ones?" (3 tens and 9 ones)
- "How could we write equations to go with the last image?" ($35 + 4 = 39$ or $30 + 9 = 39$)

Student Responses

Sample responses:

- 30: I see three 10-frames that are full.
- 35: I see three 10-frames that are full and then 3 red and 2 yellow make 5. I know that $30 + 5$ is 35.
- 39: I see that if there was one more, there would be four full 10-frames which would be 40. Since one is missing there are 39.

Activity 1

20 min

What Did I Add?

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to apply their place value understanding to add an amount of tens or ones to a two-digit number. Students also use place value reasoning to determine whether a number of tens or ones was added to a two-digit number. Throughout the activity, students explain how they add and how they determined the unknown addend with an emphasis on place value vocabulary (MP3, MP6).

Access for English Learners

MLR2 Collect and Display. Circulate, listen for and collect the language students use as they talk with their partners. On a visible display, record words and phrases such as: tens, ones, sum, equation, starting number, secret number. Invite students to borrow language from the display as needed, and update it throughout the lesson.
Advances: Conversing, Speaking, Listening

Access for Students with Disabilities

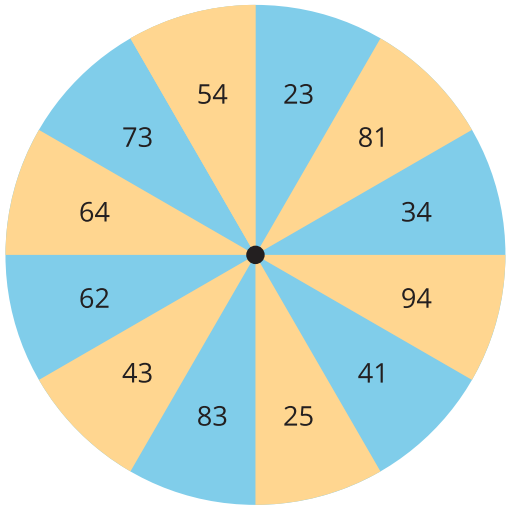
Representation: Internalize Comprehension. Synthesis: Invite students to identify which details were most important to solve the problem. Display the sentence frame, "The next time I add a two-digit and one-digit number, I will pay attention to . . . ."
Supports accessibility for: Conceptual Processing, Organization

Materials to Gather

Connecting cubes in towers of 10 and singles,
Number cards 0–10, Paper clips (2-inch)

Student-facing Task Statement

- Partner A: Spin to get a starting number.



- Partner B: Pick a number card without showing your partner. Choose whether to add that many ones or tens to your starting number. Make sure you don't go over 100. Tell your partner the sum.
- Partner A: Tell your partner what number you think they added and explain your thinking.
- Switch roles and repeat.

Student Responses

Sample responses:

- You added 4. I know because only the number in the ones place changed and I can count on.
- You added 40. I know because the number of tens changed. $50 + 40 = 90$.

Launch

- Groups of 2
- Give each group a set of number cards and a paper clip. Give students access to connecting cubes in towers of 10 and singles.
- "Remove the 0, 6, 7, 8, 9 and 10 from the number cards."
- "We are going to play a game where you must figure out the number your partner added. Let's play a round together. All of you are partner A and I am partner B."
- Invite a student to spin.
- "You spun (43). I will draw a number card and decide whether to add that many ones or that many tens. I will say the sum aloud."
- "The sum is (93). What number did I add? Talk with your partner. Be ready to explain how you know." (You added 50. In order to get from 43 to 93 you add 5 tens. 53, 63, 73, 83, 93.)
- 1 minute: partner discussion
- Share responses.

Activity

- "Now you will play with your partner. For each round, decide whether you will add tens or ones and see if your partner can guess what you added."
- 15 minutes: partner work time
- As students work, consider asking:
  - "How did you choose to add tens or ones?"
  - "How did you determine the

number your partner added?"

Synthesis

- "Priya's partner landed on 34 on the spinner. Priya picked a 5. If she wants to add 5 ones, how could she find the sum?" (She could count on. 35, 36, 37, 38, 39. She could add 5 more ones to the 4 ones in 34. 4 + 5 = 9 so its 39.)
- "How can she find the sum if she wants to add 5 tens?" (She could count on by tens. 44, 54, 64, 74, 84. She could add 3 tens and 5 tens and get 8 tens.)

Activity 2

15 min

Add Tens or Ones

Standards Alignments

Addressing 1.NBT.C.4

In this activity, students add a one-digit number or a multiple of 10 and a two-digit number, without composing a ten. The order of the problems encourages students to analyze the difference between adding ones or tens (adding 5 or adding 50), which builds on the previous activity. Students rely on methods that they have learned such as counting on or using known facts to add. In the synthesis, students may say they notice that only the digit in the ones place of a two-digit number changes when they add a one-digit number to it. While this statement is true about the numbers in these problems, it will not be true when students add in future work. It may be helpful to record this conjecture on chart paper and revisit it again in future lessons to allow students an opportunity to explain whether or not it is always true.

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the number that makes each equation true.

1. a. $43 + 5 =$ ☐
   b. $43 + 50 =$ ☐
2. a. $51 + 3 =$ ☐
   b. $51 + 30 =$ ☐
3. a. $2 + 75 =$ ☐
   b. $20 + 75 =$ ☐
4. $93 + 6 =$ ☐
   Show your thinking using drawings, numbers, or words.
5. $60 + 28 =$ ☐
   Show your thinking using drawings, numbers, or words.
6. $5 + 74 =$ ☐
   Show your thinking using drawings, numbers, or words.

Student Responses

1. a. 48
   b. 93
2. a. 54
   b. 81
3. a. 77
   b. 95
4. 99. Sample response: I know that $3 + 6 = 9$

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 7 minutes: independent work time
- 3 minutes: partner discussion

Synthesis

- Display the first three problems.
- "What did you notice about the equations and the sums?" (It was like adding the same number, just to a different place. When I add $43 + 5$, I only added the numbers in the ones place. When I add $43 + 50$, I added 5 tens and 0 ones to 43. The number in the ones place stayed the same.)

5. 88. Sample response: I added 6 tens and 2 tens which is 8 tens.
6. 79. Sample response: I started at 74 and counted on 5.

Advancing Student Thinking

If students fill in both equations with the same number, consider asking:

- "How did you find the number that makes each equation true?"
- "How would each expression look with connecting cubes? Would there be the same number of cubes?"

Lesson Synthesis

10 min

"Today we added tens or ones to two-digit numbers. Mai and Andre added 4 + 45. Mai says the sum is 85. Andre says the sum is 49. Who do you agree with? Why do you agree with them?"(Mai added the 4 to the 4 tens in 45 to get 85. Andre added the 4 to the 5 ones in 45 to get 49. I agree with Andre, because 4 means 4 ones so you have to add the 4 to the ones. Mai added 4 tens which is 40.)

Complete Cool-Down

Response to Student Thinking

Students write numbers other than 57 and 79 to make the equations true.

Next Day Support

- Before the warm-up, have students work in partners to discuss a correct response to this cool-down.

Lesson 2: How Did You Add?

Standards Alignments

Addressing 1.NBT.A.1, 1.NBT.C.4

Teacher-facing Learning Goals

- Add 2 two-digit numbers, without composing a ten, using methods based on place value.
- Make sense of equations that represent addition methods.

Student-facing Learning Goals

- Let's add numbers and find matching equations.

Lesson Purpose

The purpose of this lesson is for students to add 2 two-digit numbers, without composing a ten, using methods based on place value and make sense of equations that represent addition methods.

In previous lessons, students added teen numbers and one-digit numbers. Students also added two-digit numbers and multiples of 10 and two-digit numbers and one-digit numbers without composing a ten. In this lesson, students are invited to add 2 two-digit numbers that are not multiples of 10 in a way that makes sense to them. Some students may attempt to write equations, but are not required to do so. The teacher draws diagrams and writes equations that match student thinking during the activity synthesis for students to interpret. Throughout the lesson, students explain their own methods, interpret others' methods, and connect different methods (MP3). Students notice different ways to make use of the base-ten system to count on or add by place (MP7).

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

English Learners

- MLR8 (Activity 2)

Instructional Routines

5 Practices (Activity 1), Choral Count (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2

Materials to Copy

- Five in a Row Addition and Subtraction Stage 5 Gameboard (groups of 2): Activity 3

- Paper clips: Activity 3
- Two-color counters: Activity 3

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	15 min
Lesson Synthesis	10 min

Teacher Reflection Question

What connections did students make between the different methods shared? What questions did you ask to help make the connections more visible?

Cool-down (to be completed at the end of the lesson) 0 min

Unit 5, Section A Checkpoint

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Lesson observations

Student Responses

- Add within 100 by counting on by tens and ones.
- Add within 100 by combining tens and tens and ones and ones.
- Explain their addition method orally in a way others will understand.
- Represent their addition method on paper in a way others will understand.

Begin Lesson

Warm-up

10 min

Choral Count: Count Back From 70

Standards Alignments

Addressing 1.NBT.A.1

The purpose of this Choral Count is to invite students to practice counting backward by 1 and notice patterns in the count. When students describe repeated patterns they see using the language of place value, they look for and make use of the base-ten structure of numbers and connect it to the counting sequence (MP6, MP7, MP8).

Instructional Routines

Choral Count

Student Responses

Record the count in columns where the top number in each column is a multiple of 10.

Sample responses:

- The number in the ones place in each column goes backward from 9 (9, 8, 7, 6, 5, 4, 3, 2, 1, 0).
- The number in the tens place in each column is the same.
- There are 5 full columns.

Launch

- "Count backward by 1, starting at 70."
- Record as students count.
- Stop counting and recording at 20.

Activity

- "What patterns do you see?"
- 1-2 minutes: quiet think time
- Record responses.

Synthesis

- "Who can restate the pattern in different words?"

Activity 1

15 min

Find the Value

PLC Activity

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to add 2 two-digit numbers within 100, without composing a ten, in a way that makes sense to them. Students may apply methods such as counting on or adding tens and tens and ones and ones. Monitor and select students with the following methods to share in the synthesis:

- counts on from 23 or 45 by tens and ones, ($23 + 10 + 10 + 10 + 10 = 63$, $63 + 1 + 1 + 1 + 1 + 1 = 68$ or $45 + 10 + 10 = 65$, $65 + 1 + 1 + 1 = 68$)
- adds to 23 or 45 by adding all the tens and then all the ones ($23 + 40 + 5$ or $45 + 20 + 3$)
- combines tens and tens and ones and ones ($20 + 40 = 60$, $3 + 5 = 8$, $60 + 8 = 68$ or $3 + 5 = 8$, $20 + 40 = 60$, $60 + 8 = 68$)

During the synthesis, the teacher records each step of student thinking as equations as shown above. Students discuss connections between their classmates' work.

Instructional Routines

5 Practices

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the value of $23 + 45$.
Show your thinking using drawings, numbers, or words.

Student Responses

68. Sample responses:

- Draws two towers of 10, labels 20 under to show the total. Draws 3 singles, labels 23 to

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 5 minutes: independent work time
- 2 minutes: partner discussion
- Monitor for students who use the methods described in the activity narrative.

show the total. Then draws 4 subsequent towers of 10 labeled 33, 43, 53, 63 to show counting on by tens. Draws 5 singles labeled 64, 65, 66, 67, 68 to show counting on by ones.

- Draws 2 towers of 10, and 3 ones. Draws 4 towers of 10, and 5 ones. Circles the towers of 10 together, labels 60 to show the total of tens. Circles the ones together, labels 8 to show the total of ones.

Synthesis

- Invite previously identified student to share in the order presented above.
- As students explain their thinking, record drawings and equations.
- "Does anyone have a question about _____'s method?"
- "How are these methods and equations the same? How are they different?" (One person started with 23 and the other started with 45. They all worked with tens and ones. The first person counted on by ten and then by one. The next person added the tens and then the ones to the first number. The last person broke apart both numbers and added the tens together and the ones together.)

Advancing Student Thinking

If students find a value other than 68, consider asking:

- "How did you find the value of 23 + 45?"
- "How could you use connecting cubes (or drawings) to find the value?"
- "How could you use labels or other drawings to keep track of how you counted?"

Activity 2

10 min

Elena and Andre Represent $63 + 25$

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to analyze two different representations of addition

methods and identify the equations that match each method. One of the representations shows adding tens and tens and ones and ones. The other representation shows counting on by tens and ones.

Access for English Learners

MLR8 Discussion Supports. During partner work, invite students to take turns sharing their responses. Ask students to restate what they heard using precise mathematical language and their own words. Display the sentence frame: "I heard you say . . ." Original speakers can agree or clarify for their partner.
Advances: Listening, Speaking

Access for Students with Disabilities

Action and Expression: Develop Expression and Communication. To support students with making a connection between the equations and the visual representations, provide access to a variety of tools such as crayons, colored pencils, or highlighters.
Supports accessibility for: Visual-Spatial Processing, Conceptual Processing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

1. Here are 2 drawings students made for $63 + 25$.

Elena's work

Andre's work

Which equations go with which drawing? Be ready to explain your thinking in a way others will understand.

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- Display and read the first problem.
- "Look at each student's work and see if you can figure out what they were each thinking."
- 1 minute: quiet think time
- 1 minute: partner discussion
- Share student responses.

Activity

- Display and read the second problem.
- "Which equations go with each drawing? Be ready to explain how you know so that

Set A	Set B
$63 + 20 = 83$	$60 + 20 = 80$
$83 + 5 = 88$	$3 + 5 = 8$
	$80 + 8 = 88$

Student Responses

Elena's work is
$60 + 20 = 80$
$3 + 5 = 8$
$80 + 8 = 88$

Andre's work is
$63 + 20 = 83$
$83 + 5 = 88$

others will understand."

- 3 minutes: partner discussion

Synthesis

- Display Elena's work and the matching equations.
- "How do these equations match the drawing?" (You can see she added the 60 and the 20 and then added the 3 and the 5.)
- "How would you describe how Elena found the sum?" (She added tens and tens, then ones and ones. Then she added the total number of tens and ones together.)
- Display Andre's work and the matching equations.
- "How do these equations match the drawing?" (He started with the 63 then added 20 then added the 5.)
- "How would you describe how Andre found the sum?" (He started with 63 and added the tens then he added the ones.)

Activity 3

15 min

Introduce Five in a Row, Add Within 100 without Composing

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to learn stage 5 of the Five in a Row center. Students add within 100, without composing a ten. Partner A chooses two numbers and places a paperclip on each number. They add the numbers and place a counter on the sum. Partner B moves one of the paperclips to a different number, adds the numbers, and places a counter on the sum. Students take turns moving one paper clip, finding the sum and covering it with a counter. The winner is the first one to get five counters in a row. Two gameboards are provided, one where

students add a one-digit and a two-digit number and one where they add a two-digit and a two-digit number. For this activity, students work with the gameboard with one-digit numbers.

Materials to Gather

Paper clips, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stage 5 Gameboard (groups of 2)

Launch

- Groups of 2
- Give each group two paper clips, a gameboard, and two-color counters.
- "We are going to learn a new way to play Five in a Row."
- Display the gameboard.
- "The first player chooses one number from each row to add together. They place a paper clip on each number."
- Demonstrate putting a paper clip on a one-digit number and on a two-digit number.
- "Then that player finds the sum of the numbers and puts a counter on the sum on the gameboard."
- Demonstrate finding the sum of the two numbers and placing the counter on the gameboard.
- "The next player only moves one of the paper clips to a new number. Then they find the sum of their two numbers and cover it with a counter on the gameboard. Continue taking turns moving one paper clip and covering numbers on the gameboard until someone gets five counters in a row. They are the winner."

Activity

- 8 minutes: partner work time

Synthesis

- "How did you decide which paper clip to move?"(I looked at the gameboard and saw which numbers I needed to cover. I tried to find numbers that would have that sum.)

Lesson Synthesis

10 min

"Today we saw that there are different methods that can be used to add 2 two-digit numbers. What method did you see today that you would like to try tomorrow?" (I want to try adding the tens and tens then the ones and ones. I want to try starting with one number and adding on the tens and then the ones.)

Lesson 3: Add It, Explain It

Standards Alignments

Addressing 1.NBT.C.4

Teacher-facing Learning Goals

- Add 2 two-digit numbers, without composing a ten, using methods based on place value.
- Write equations to represent addition methods.

Student-facing Learning Goals

- Let's add numbers and write equations to show our work.

Lesson Purpose

The purpose of this lesson is for students to add 2 two-digit numbers, without composing a ten, using methods based on place value and to write equations to represent addition methods.

In previous lessons, students used methods based on place value to add within 100, without composing a ten. They analyzed equations that represent methods for finding the sum.

In this lesson, students add two-digit numbers using methods of their choice and write equations to match their thinking. Students interpret and compare different methods for finding the value of the same sums. Students also practice explaining their own methods and listening to the methods of their peers. Students have opportunities to revise how they explain their own and others' methods and consider how representations of their own thinking (for example, drawings or equations) can help them explain or interpret their work (MP3, MP6).

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

English Learners

- MLR7 (Activity 1)

Instructional Routines

MLR8 Discussion Supports (Activity 2), Number Talk (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

Today students were asked to share their thinking in a way that would make sense to their partner. What have you noticed about the language students use? What support can you offer to students who struggle to communicate their ideas orally?

Cool-down (to be completed at the end of the lesson)

5 min

Find the Value of $14 + 53$

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Find the value of $14 + 53$.
Show your thinking using drawings, numbers, or words.
Write equations to show how you found the value.

Student Responses

67. Sample responses:

- $10 + 50 = 60$
  $4 + 3 = 7$
  $60 + 7 = 67$
- $14 + 50 = 64$
  $64 + 3 = 67$
- $53 + 10 = 63$
  $63 + 4 = 67$

Begin Lesson

Warm-up

10 min

Number Talk: Add More Tens

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this Number Talk is to elicit strategies and understandings students have for adding within 100. These understandings help students develop fluency and will be helpful later in this lesson when students add two-digit numbers using methods based on place value.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $13 + 21$
- $13 + 31$
- $23 + 31$
- $33 + 41$

Student Responses

Sample responses:

- 34: I know 1 ten and 2 tens is 3 tens, and 3 and 1 is 4.
- 44: I added one more ten to 34 and got to 44.
- 54: I know 2 tens and 3 tens is 5 tens and then there's 4 more.
- 74: I saw that both numbers got larger by 10, so I added 20 to the previous sum and got 74.

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

Activity

- Record answers and strategy.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- "How can $23 + 31$ help you solve $33 + 41$?" (The tens are changing again. In $33 + 41$, you are adding 2 tens total, so the sum of $23 + 31$ increases by 20. $54 + 20 = 74$.)

Activity 1

15 min

Lin and Han Add

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to make sense of the first step of addition methods and then finish finding the sum. They write equations to represent their thinking. In the synthesis, students have opportunities to share how they represented a method with equations and connect the representations using their understanding of place value (MP7).

Access for English Learners

MLR7 Compare and Connect. Synthesis: After all students' work has been presented, lead a discussion comparing, contrasting, and connecting the different approaches. Ask, “How are Lin and Han’s approaches similar and different?”
Advances: Representing, Conversing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Lin and Han are both finding the value of $32 + 54$.
Look at how each student started.
What should they do next to find the value?
Write equations to represent your thinking.
Be ready to explain your thinking in a way that others will understand.

1. Lin started by putting 3 tens and 5 tens together.
   She recorded her first step like this:
   $30 + 50 = 80$.

2. Han started with 54 and added 3 tens.
   He recorded his first step like this:

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 7 minutes: partner work time
- Monitor for a student who writes equations to represent how each student can find the value and can explain their thinking.

Synthesis

- Invite previously identified students to

$54 + 30 = 84$.

Student Responses

1. Sample response: Lin needs to add ones and ones then add the tens and ones. $2 + 4 = 6$, $80 + 6 = 86$
2. Sample response: Han needs to add the ones from 32. $84 + 2 = 86$

share their equations for Lin's work and then Han's work.

- "How are these equations the same? How are they different?" (They both got the same sum. They both add tens and ones. The first one breaks apart both numbers and adds tens and tens and ones and ones. The second one starts with 54 and adds the tens then the ones.)

Advancing Student Thinking

If students take new steps that do not lead to a value of 86, consider asking:

- "What do you think Lin (or Han) should do next? Why?"
- "What did Lin (or Han) do first? How could you show what they did with connecting cubes?"
- "What do they need to do next? How do you know?"
- "How could you represent the next step with an equation?"

Activity 2

20 min

I Heard You Say

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to find the sum of 2 two-digit numbers and represent their thinking with equations. Students then orally explain their steps to a partner and how the equations they wrote match their steps. Partners listen and then practice restating what they heard their partner say. Restating what a partner has said helps ensure students listen for understanding as their partner explains their thinking. Students have multiple opportunities to explain their thinking and the thinking of a partner and revise their language for clarity (MP3, MP6).

This activity uses *MLR8 Discussion Supports*. Advances: listening, speaking, conversing.

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to verbalize the method they will use before they begin. Students can speak quietly to themselves or share with a partner.
Supports accessibility for: Organization, Conceptual Processing, Language

Instructional Routines

MLR8 Discussion Supports

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the value of $23 + 74$ using Lin's or Han's method.
Write equations to represent your thinking.

$23 + 74$

Student Responses

97. Sample responses:

- $74 + 20 = 94, 94 + 3 = 97$
- $20 + 70 = 90, 3 + 4 = 7, 90 + 7 = 97$

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 5 minutes: independent work time
- Monitor for students using different methods in order to make partnerships of students who found the value in different ways.
- "Now you are going to explain to your partner how you found the value of the sum. Use your drawings or connecting cubes to explain your steps. Also explain how the equations you wrote match each step you took."

MLR8 Discussion Supports

- "After your partner explains their method, restate what you heard from your partner."
- Display the sentence frame: "I heard you say . . ."
- "Ask your partner if you restated their

thinking accurately."

- 8 minute: partner discussion

Synthesis

- "What was most difficult about restating your partner's thinking? What helped you make sense of your partner's thinking and restate it?"

Lesson Synthesis

10 min

Display:

31 + 48
48 + 30 = 78
78 + 1 = 79

"Today we found the sums of 2 two-digit numbers, explained our thinking, and practiced restating our partner's thinking. Listen as I explain how I found the value of 31 + 48. Then you will have a chance to restate what you heard me say."

Explain the steps represented by the equations and invite students to share beginning with, "I heard you say..."

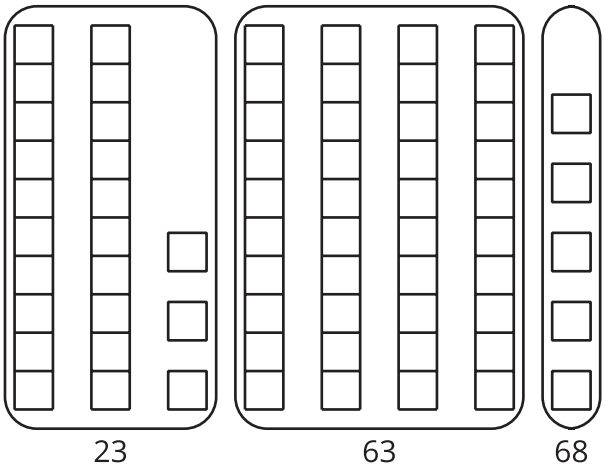
Student Section Summary

We added numbers within 100. We learned different methods to add by thinking about tens and ones and record our thinking with equations.

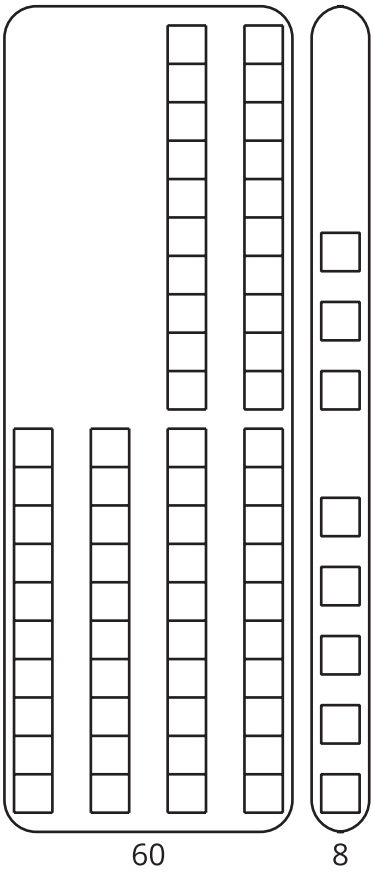
$$23 + 45$$

Add on tens then ones:

Add tens and tens and ones and ones:



$23 + 40 = 63$
$63 + 5 = 68$



$20 + 40 = 60$
$3 + 5 = 8$
$60 + 8 = 68$

Complete Cool-Down

Response to Student Thinking

Students write a number other than 67 for the sum.

Next Day Support

- Before beginning the lesson, review different methods for finding the value of 14 + 53.

Lesson 4: Center Day 1

Standards Alignments

Addressing 1.NBT.A.1, 1.NBT.C.4, 1.OA.A.1, 1.OA.C.6, 1.OA.D.8

Teacher-facing Learning Goals

- Add within 100, without composing a ten.

Student-facing Learning Goals

- Let's add within 100.

Lesson Purpose

The purpose of this lesson is for students to practice adding within 100 without composing a ten.

In the first activity, students learn stage 3 of the Number Puzzles center. In this new stage, students use digit cards to make addition equations within 100 without composing a ten. In the second activity, students choose from center activities that focus on adding within 100.

Access for:

English Learners

- MLR8 (Activity 2)

Instructional Routines

Notice and Wonder (Warm-up)

Materials to Gather

- Materials from previous centers: Activity 1, Activity 2

Materials to Copy

- Number Puzzles Addition and Subtraction Stage 3 Gameboard (groups of 2): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	25 min
Lesson Synthesis	10 min

Teacher Reflection Question

How are students working together during center time? Are all students getting the opportunity to participate in the mathematics?

Begin Lesson

Warm-up

10 min

Notice and Wonder: Marbles

Standards Alignments

Addressing 1.OA.A.1

The purpose of this warm-up is to elicit the idea that sometimes we need to add numbers to solve problems in our daily lives. Students are learning different methods for adding with two-digit numbers, and this warm-up offers students a chance to see a real-world context where this may need to be done. While students may notice and wonder many things about the story, the idea that we can add numbers to solve real-world problems is the important discussion point.

Instructional Routines

Notice and Wonder

Student-facing Task Statement

What do you notice?
What do you wonder?

Kiran and Priya each have some marbles.
Kiran has 14 marbles.
Priya has 23 marbles.

Student Responses

Students may notice:

Launch

- Groups of 2
- Display the story.
- "What do you notice? What do you wonder?"
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Share and record responses.

Synthesis

- "What questions could we ask?" (How many marbles do they have together? How many more marbles does Priya have than Kiran?)
- "What would we need to do to answer those questions?" (Add the numbers together. Subtract one number from the other.)

- Two kids both have some marbles.
- It sounds like a story problem but there is no question.
- Priya has more marbles than Kiran.

Students may wonder:

- Are we going to add the numbers together?
- What question should be at the end of this story?

Activity 1

15 min

Introduce Number Puzzles, Within 100 without Composing

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8

The purpose of this activity is for students to learn stage 3 of the Number Puzzles center. Students work together to use digit cards to make addition equations within 100 without composing a ten. Each digit card may only be used one time on a page.

Materials to Gather

Materials from previous centers

Materials to Copy

Number Puzzles Addition and Subtraction Stage 3 Gameboard (groups of 2)

Required Preparation

- Each group of 2 needs a set of digit cards from the previous center, Number Puzzles.

Launch

- Groups of 2
- Give each group a set of cards and gameboards.
- "We are going to learn a new way to play Number Puzzles."

- "These number puzzles have addition equations with two-digit numbers. Use the digit cards to make each equation true. Remember that you can only use each card once on a page."

Activity

- 10 minutes: partner work time

Synthesis

- Display a gameboard.
- "Which equation can you fill in first?"

Activity 2

25 min

Centers: Choice Time

Standards Alignments

Addressing 1.NBT.A.1, 1.OA.C.6, 1.OA.D.8

The purpose of this activity is for students to choose an activity to work on that focuses on numbers up to 100. Students choose from any stage of previously introduced centers.

- Number Puzzles
- Five in a Row
- Greatest of Them All

Access for English Learners

MLR8 Discussion Supports. Synthesis: Display sentence frames to support whole class discussion: "I learned_____ by . . ." and "I got better at _____ by . . ."
Advances: Speaking, Conversing

Materials to Gather

Materials from previous centers

Required Preparation

- Gather materials from previous centers:
  - Number Puzzles, Stages 1-3
  - Five in a Row, Stages 1-5
  - Greatest of Them All, Stage 1

Student-facing Task Statement

Choose a center.

Number Puzzles

$14 = 8 + \square$

Five in a Row

Greatest of Them All

Launch

- Groups of 2
- "Today we are going to choose from centers we have already learned."
- Display the center choices in the student book.
- "Think about what you would like to do first."
- 30 seconds: quiet think time

Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- "Choose what you would like to do next."
- 10 minutes: center work time

Synthesis

- "What is one thing you learned or got better at by working on the activity you chose?"

Lesson Synthesis

10 min

"How did you and your partner work together during centers? What went well? What can we continue to work on?"

Section B: Make a Ten: Add One- and Two-digit Numbers

Lesson 5: Make a Ten

Standards Alignments

Addressing 1.NBT.C.4

Teacher-facing Learning Goals

- Add a one-digit and a two-digit number, with composing a ten, in a way that makes sense to them.

Student-facing Learning Goals

- Let's add two-digit and one-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to add a two-digit number and a one-digit number within 100, with composing a ten, in a way that makes sense to them.

In previous lessons, students added within 100 using place value understanding and properties of operations. They described adding tens to tens and ones to ones without composing a new ten. In previous units, students added within 20 using methods such as counting on, making ten, or using known facts.

In this lesson, students add a one-digit number to a two-digit number in a way that makes sense to them. Students explain their own methods and connect different methods. Students may notice that the value of the sum has more tens than the two-digit addend and connect this to methods that explicitly show composing a new unit of ten from 10 ones.

Activity 3 is an optional activity that encourages students to consider contexts in which we need to add a two-digit and a one-digit number. When students contextualize and decontextualize addition expressions, they reason abstractly and quantitatively (MP2).

Access for:

Students with Disabilities

- Action and Expression (Activity 1)

English Learners

- MLR8 (Activity 2)

Instructional Routines

5 Practices (Activity 1), How Many Do You See? (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2, Activity 3

Materials to Copy

- Add Em' Up Cards (2-digit and 1-digit numbers to 100) (groups of 2): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	20 min
Activity 3	15 min
Lesson Synthesis	10 min

Teacher Reflection Question

Reflect on who participated in math class today. What assumptions are you making about those who did not participate? How can you leverage each of your students' ideas to support them in being seen and heard in tomorrow's math class?

Cool-down (to be completed at the end of the lesson) 0 min

Unit 5, Section B Checkpoint

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Lesson observations

Student Responses

- Add within 100 by counting on.
- Make a ten to add within 100.
- Add within 100 by combining ones and ones.
- Explain their addition method orally in a way others will understand.
- Represent their addition method on paper in a way others will understand.

Begin Lesson

Warm-up

10 min

How Many Do You See: Many 10-frames

Standards Alignments

Addressing 1.NBT.C.4

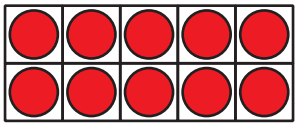
The purpose of this How Many Do You See is for students to subitize or use grouping strategies to describe the images they see. The images include 10-frames to elicit students' work when adding within 20 and encourage students to think about composing a ten by counting on, which will be the focus of activities later in the lesson.

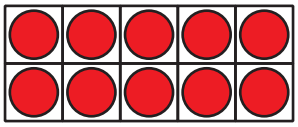
Instructional Routines

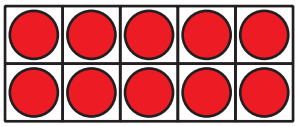
How Many Do You See?

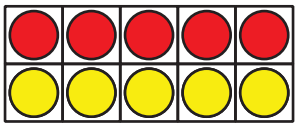
Student-facing Task Statement

How many do you see?
How do you see them?









Launch

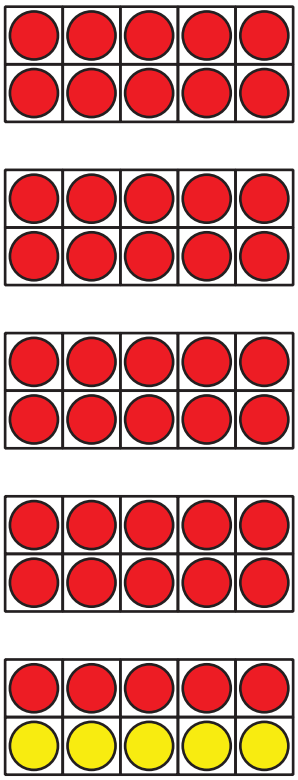
- Groups of 2
- "How many do you see? How do you see them?"
- Flash the image.
- 30 seconds: quiet think time

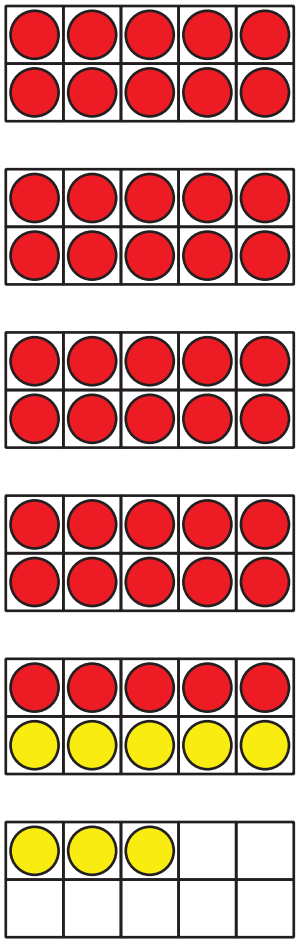
Activity

- Display the image.
- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Record responses.
- Repeat for each image.

Synthesis

- "How are the second and third images the same and different?" (In the third image all of the 10-frames are full, but in the second they are not.)





Student Responses

Sample responses:

- 40: I see three 10-frames filled, so that is 30. Then I see 5 red counters and 5 yellow counters. $30 + 5 + 5 = 40$.
- 50: I see one more 10-frame filled, so that is $40 + 10 = 50$.
- 53: I see four 10-frames filled with red and that is 40. I see one 10-frame filled with 5 red and 5 yellow, so that is another 10. $40 + 10 = 50$. There are 3 left so $50 + 3 = 53$.

Activity 1

20 min

Choose a Way to Add

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to add a one-digit number and a two-digit number in a way that makes sense to them. As students add, they may apply their learning from previous lessons to count on, make a new ten, apply the commutative property, or add ones and ones.

Monitor and select students who use the following methods to share in the synthesis:

- Start with 47, count on 8 ($47 + 8$)
- Start with 47 and decompose the 8 into 3 and 5 to make a new ten ($47 + 3 + 5$)
- Add the ones ($7 + 8$), then add on the tens ($15 + 40$)

In addition to these different methods, monitor for different ways that students represent their thinking (connecting cubes, drawings, equations). Students who use connecting cubes or base-ten drawings may physically compose a new unit of ten. This representation will be explored further in future lessons, but can also be used in this activity synthesis when sharing methods that show adding the ones, then adding the tens.

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to plan a method, including the tools they will use, for finding the sum. If time allows, invite students to share their plan with a partner before they begin.
Supports accessibility for: Organization, Conceptual Processing, Language

Instructional Routines

5 Practices

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the value of $8 + 47$.
Show your thinking using drawings, numbers, or words.

Student Responses

55. Sample responses:

- Show 4 tens 7 ones, count on 48, 49, 50, 51, 52, 53, 54, 55.
- Show 4 tens 7 ones, add 3 to make 50, and add 5.
- Add $8 + 7$, then $40 + 15$.

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 3–5 minutes: independent work time
- "Share your thinking with your partner."
- 3 minutes: partner discussion
- As students work, consider asking:
  - "Where is the 47 in your representation?"
  - "Where is the 8 in your representation?"
  - "How did you determine the sum?"

Synthesis

- Invite previously identified students to share in the order listed in the activity narrative. If students only share equations, represent their thinking with connecting cubes or base-ten drawings.
- "What is the same about how each student found the sum? What is different?" (They all got 55. The first one started at 47 and counted on by ones. The second one added 3 to 47 to make 50 then added the 5 ones. The last one added the ones first then added the tens.)

Advancing Student Thinking

If students count on to find the sum, consider asking:

- "How did you find the sum?"
- "How could you use 10-frames or connecting cubes to find the sum without counting by one?"

Activity 2

20 min

Add ‘Em Up Partner

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to practice adding a one-digit number and a two-digit number in a way that makes sense to them. Students may choose to use methods shared in the previous activity. Give half of the class one-digit numbers and the other half two-digit numbers. Students pair up to create a sum with a two-digit number and a one-digit number. In some problems, the sum will require composing a ten when adding ones to ones. Monitor for students who share ways they make a new ten with connecting cubes or drawings to share in the synthesis.

When students choose a method to add based on the pair of numbers they are adding, they make use of structure and apply regularity in reasoning (MP7, MP8). This could mean counting on when the 1-digit number is small, adding the ones when there is no new ten, and adding on to make a ten if needed.

Access for English Learners

MLR8 Discussion Supports. Synthesis: For each method that is shared, invite students to turn to a partner and restate what they heard using precise mathematical language.
Advances: Listening, Speaking.

Materials to Gather

Connecting cubes in towers of 10 and singles

Materials to Copy

Add Em' Up Cards (2-digit and 1-digit numbers to 100) (groups of 2)

Required Preparation

- Create a set of cards from the Instructional master for the class.

Student-facing Task Statement

Practice Round:
Show your thinking using drawings, numbers, or words.

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Equation: _____

Round 1:
Show your thinking using drawings, numbers, or words.

Equation: _____

Round 2:
Show your thinking using drawings, numbers, or words.

Equation: _____

Round 3:
Show your thinking using drawings, numbers, or words.

Equation: _____

Round 4:
Show your thinking using drawings, numbers, or words.

Equation: _____

Round 5:
Show your thinking using drawings, numbers, or words.

Equation: _____

Student Responses

Sample responses:

- $67 + 8 = 75$. Draws 6 tens, 7 ones, and 8 ones. Combines 7 ones and 3 ones to make 10. Counts to find the total: 60, 70, 71, 72, 73, 74, 75.
- $24 + 3 = 27$. Counts on 25, 26, 27.
- $75 + 4 = 79$. Adds 5 ones and 4 ones using known facts. Adds 9 and 70.

- Give half of the students one-digit number cards and half of the students two-digit number cards.
- Display the student workbook page with the practice round.
- "Each person has a card with a number on it. You will find a partner and find the sum of your two numbers. One student should have a one-digit number and the other should have a two-digit number. Let's do one round together."
- Invite one student with each kind of card to share their number.
- "Find the sum of the numbers. Show your thinking using drawings, numbers, or words. Then write an equation that shows the value you found."
- 2 minutes: independent work time
- Share an equation that could be used.
- "Now we will all play a few rounds."

Activity

- "Find a partner and find the sum of your numbers."
- 5 minutes: partner work time
- "Switch cards with your partner and find a new partner."
- Repeat as time allows.
- Monitor for students whose sum:
    - does not require composing a new ten.
    - requires composing a new ten when adding ones and ones.

Synthesis

- Invite previously identified students to share.
- After each student shares, ask "Why did you choose this method?" (Since I was

adding only 3, I could count on quickly. The number 9 would take too long to count on so I broke it apart to make a new ten and then added the rest.)

Activity 3 (optional)

15 min

Tyler's Teacher

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to solve story problems that require adding a two-digit number and a one-digit number with composing a ten. This activity offers additional practice using methods discussed in the previous activities, while giving context for adding these quantities. Students share different times in their lives that they have added or seen others add quantities like those they have been adding. This activity is optional because it provides practice solving story problems with numbers larger than 20, which is not an expectation of students in grade 1.

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

1. Tyler's teacher collected 37 dollars for the class field trip.
   Then someone brought in 7 more dollars.
   How much money did Tyler's teacher collect?
   Show your thinking using drawings, numbers, or words.
2. Tyler's teacher needs to know if all of his students are in the classroom.
   There are 8 students sitting at tables and 26

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- Read the first problem aloud.
- "What is this story about? How can we find out how much money Tyler's teacher collected?" (It is about money for a field trip. We can add $37 + 7$.)
- "We need to add some more ones to a two-digit number in order to find out how much

students on the rug.
How many students are in the classroom? Show your thinking using drawings, numbers, or words.

Student Responses

1. 44. Sample response: I added 37 and 3 to make 40 and then added 4 more.
2. 34. Sample response: $8 + 6 = 14$ and $14 + 20 = 34$

money Tyler's teacher collected. When do you need to add numbers or quantities like this in your life? When do you see others do this?" (My mom adds up how much things cost at the store. The teacher adds groups of kids on the playground to see if we are all there. When I get new stuffed animals, I add up how many I have altogether. When a team scores more points we add them to the points they already had.)

Activity

- "Solve the problem to find out how much money Tyler's teacher collected. Then solve the next problem."
- 3 minutes: independent work time
- 2 minutes: partner discussion
- Monitor for students who use connecting cubes or base-ten drawings to solve.

Synthesis

- Invite previously identified students to share their method for each problem.

Lesson Synthesis

10 min

Display $45 + 3 = 48$ and $45 + 8 = 53$.

"What do you notice about these equations?" (Both equations start with 45. One equation shows the sum is 48 and the other shows the sum is 53. The first equation shows 4 tens and some ones on both sides. The other equation shows 4 tens and some ones on one side and 5 tens and some ones on the other side.)

"Sometimes when adding two-digit and one-digit numbers the sum has the same number of tens as the two-digit number you start with, like 48 has the same number of tens as 45 in this equation. Sometimes the sum has more tens than the two-digit number, like 53 has more tens than 45 in this equation. Why do you think that happens?" (Sometimes when you count on, you count to the next ten. When you have more than ten ones, you make a new ten, so the value shows more tens.)

Lesson 6: Make a Ten and Make Sense of Equations

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.C.6

Teacher-facing Learning Goals

- Add a one-digit and a two-digit number, with composing a ten, using place value understanding and the properties of operations.
- Make sense of equations that represent addition methods.

Student-facing Learning Goals

- Let's add one-digit and two-digit numbers and make sense of equations.

Lesson Purpose

The purpose of this lesson is for students to add one-digit and two-digit numbers, with composing a ten, using place value understanding and the properties of operations. Students also make sense of equations that represent addition methods.

In this lesson, students add one-digit and two-digit numbers by composing a ten using place value reasoning and properties of operations. The associative and commutative property are highlighted in this lesson.

The first activity uses 10-frame diagrams to encourage students to determine how many ones can be added to a two-digit number to get to the next multiple of 10. Much like they did when looking to make a ten when adding within 20, students consider decomposing a one-digit number in such a way that they can combine one part with the two-digit number to make a multiple of 10 ($68 + 6 = 68 + 2 + 4 = 74$).

In the second activity, students compare different representations of this method, including those that use connecting cubes and base-ten drawings. These representations help students use their understanding of place value to see that when adding ones to ones, they can sometimes make a new unit of ten. This is a conceptual jump for students from understanding that they can count to a "10" (or the next ten) to understanding that they can create a new unit of ten from 10 ones (MP7).

Access for:

Students with Disabilities

- Engagement (Activity 1)

English Learners

- MLR7 (Activity 2)

Instructional Routines

Number Talk (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2, Activity 3
- Number cards 0–10: Activity 3

Materials to Copy

- Target Numbers Stage 1 Recording Sheet (groups of 1): Activity 3

Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	15 min
Activity 3	15 min
Lesson Synthesis	10 min

Teacher Reflection Question

How did the work of Activity 1 lay the foundation for students to be successful in the next activity? What do students need to be fluent with in order to use the method presented in Activity 2?

Cool-down (to be completed at the end of the lesson) 0 min

Unit 5, Section B Checkpoint

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Lesson observations

Student Responses

- Add within 100 by counting on.
- Make a ten to add within 100.
- Add within 100 by combining ones and ones.
- Explain their addition method orally in a way others will understand.
- Represent their addition method on paper in a way others will understand.

Begin Lesson

Warm-up

10 min

Number Talk: Add Within 20

Standards Alignments

Addressing 1.OA.C.6

The purpose of this Number Talk is to elicit strategies and understandings students have for making a ten when adding within 20. The numbers chosen lend themselves to making a ten to find the value of the sum. These understandings help students develop fluency and will be helpful later in this lesson when students make a ten when adding one-digit numbers and two-digit numbers.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $8 + 2$
- $8 + 5$
- $9 + 8$
- $7 + 6$

Student Responses

- 10: I just know the ten facts.
- 13: I added 2 to 8 to get to 10, and then I have 3 more to add. $10 + 3$ is 13.
- 17: I know that $9 + 1 = 10$. I need to add 7 more and $10 + 7 = 17$.
- 13: I know that $6 + 6 = 12$ and I add one more. $7 + 6 = 13$.

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

Activity

- Record answers and methods.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- "How could $8 + 2$ help you to find the value of $8 + 5$?" (I can add 2 to 8 to get to 10, and then I have 3 more to add. $10 + 3$ is 13.)

Activity 1

10 min

How Many to the Next Ten?

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to determine the unknown addend in equations with sums that are multiples of 10. The first two problems are represented using both ten-frames and equations to encourage students to visualize the unknown addend. Students may initially find the unknown addend using fingers or math tools, then see that they can use known facts to combine the ones to make ten.

During the synthesis, the teacher records equations to show how the student decomposed the two-digit addend and used a known fact to make ten. For example, to solve $24 + \square = 30$, the teacher records:

$24 + \square = 30$

$20 + 4 + \boxed{6} = 30$

This notation and the discussion that follows can help students transition from counting on to the next ten to using the facts they know within 10 to help them add within 100. This also prepares them for the next activity where they describe making a ten using place value understanding.

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Chunk this task into more manageable parts. Check in with students to provide feedback and encouragement after each chunk.
Supports accessibility for: Attention, Social-Emotional Functioning

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

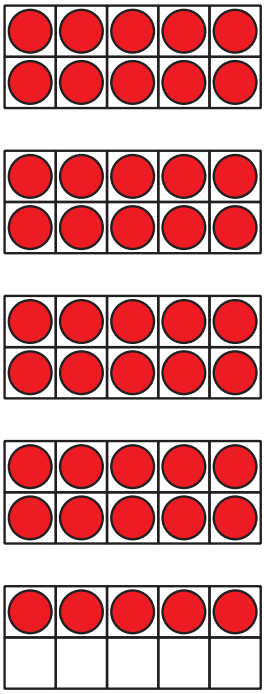
Find the number that makes each equation true.

Be ready to explain your thinking in a way that others will understand.

Launch

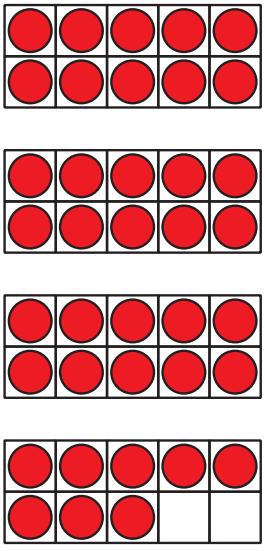
- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

1.



$45 + \square = 50$

2.



$38 + \square = 40$

3. $63 + \square = 70$

4. $24 + \square = 30$

- Display the first image in the student workbook.
- "What number makes this equation true? How do you know?" (5. I see 4 tens 5 ones and 5 more would fill up the 10-frame.)
- 1 minute: quiet think time
- 1 minute: partner discussion
- Share responses.

Activity

- Read the task statement.
- 5 minutes: independent work time
- 2 minutes: partner discussion

Synthesis

- Display $42 + \square = 50$
- Invite students to share their thinking.
- After the first student shares, record $40 + 2 + \boxed{8} = 50$
- "How does this equation match how they thought about the problem?" (42 can be broken apart into 40 and 2. To get to the next ten, which is 50, they can think about what can be added to 2 to get 10. $2 + 8 = 10$ and $40 + 10 = 50$.)
- If needed, ask:
  - "Where is 42 in this equation?"
  - "Where is 10 in this equation?"

5. $42 + \square = 50$
6. $57 + \square = 60$
7. $71 + \square = 80$
8. $89 + \square = 90$
9. What did you notice about the unknown number in each equation?

Student Responses

1. 5
2. 2
3. 7
4. 6
5. 8
6. 3
7. 9
8. 1
9. Sample response: I can just break apart the two-digit number into tens and ones. I just need to think about what the missing ones are that will make 10 when added to the other ones.

Activity 2

15 min

Elena and Andre Add

PLC Activity

Standards Alignments

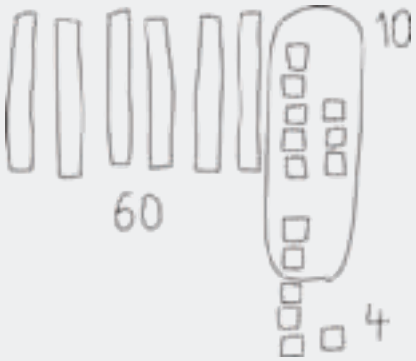
Addressing 1.NBT.C.4

The purpose of this activity is for students to add one-digit and two-digit numbers with composing a ten and deepen their understanding of place value. In this activity, students make sense of two different addition methods where an addend is decomposed to make a ten. Students then determine the next step needed to find the value of the original sum. Invite students to use different representations to make sense of these methods including connecting cubes and base-ten drawings. Completing the start of a calculation as students do here requires critically analyzing, understanding, and expressing different strategies (MP3).

Students then have an opportunity to add using one of these methods and the representations that make sense to them. Monitor for students who show composing a new unit of ten using connecting cubes or base-ten diagrams. Students use appropriate tools strategically as they choose which tools help them add (MP5). As selected students share their thinking during the activity synthesis, record their thinking as drawings and equations so that students can connect the method to the concept of making a new unit of ten from 10 ones.

For example,

$68 + 6 = \square$



$68 + 2 + 4$
$60 + 10 + 4 = \boxed{74}$

Access for English Learners

MLR7 Compare and Connect. Synthesis: After all representations have been presented, lead a discussion comparing, contrasting, and connecting the different representations. Ask, “How can you see Elena’s method in the drawings, numbers, and words that were shared?” and “How are the drawings, numbers, and words similar? How are they different?”
Advances: Representing, Conversing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Elena and Andre found the value of $34 + 9$.

Launch

- Groups of 2

1. Elena started with $34 + 6 = 40$.
   What does Elena need to do next?
   Show your thinking using drawings, numbers, or words.
2. Andre started with $9 + 1 = 10$.
   What does Andre need to do next?
   Show your thinking with drawings, numbers, or words.
3. Find the value of $6 + 68$. Show your thinking using drawings, numbers, or words.

Student Responses

1. Sample responses:
   - Elena needs to add 3 ones.
   - Students use connecting cubes or base-ten drawings to represent $34 + 6 = 40$ and add the remaining 3 ones.
2. Sample responses:
   - Andre needs to add 33.
   - Andre needs to add 3 tens and 3 more ones.
   - $10 + 33 = 43$
   - Students draw a base-ten drawing to show 34 and 9 as tens and ones. They show $9 + 1 = 10$ by circling the 9 ones and 1 one. They show counting or adding all the tens and ones using labels or equations.
3. Sample responses:
   - Students draw base-ten drawings to show 68 as 6 tens and 8 ones and 6 as 6 ones. Students draw to show 8 ones and 2 ones as a ten (or 6 tens and 4 ones as a ten).
   - Students use labels or equations to show how they count or add all the tens and ones.
   - $68 + 2 = 70$
     $70 + 4 = 74$

- Give students access to connecting cubes in towers of 10 and singles.
- Display $34 + 9$.
- "Elena and Andre found the value of $34 + 9$. Elena showed her first step by writing $34 + 6 = 40$. What do you notice about her first step?" (She only added 6. Maybe she wanted to make the next ten. She wanted to make a ten with $4 + 6$.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- "What does she need to do to finish her work?" (She needs to add 9 in all. She added 6, now she needs to add 3 more to 40.)
- 2 minutes: independent work time
- 1 minute: partner discussion
- Record student thinking as equations ($34 + 6 + 3 = \boxed{43}$).
- "Where do you see 9 in this equation?" ($6 + 3$)

Activity

- Display and read Andre's first step.
- "Now decide what Andre needs to do next. Then find the value of $6 + 68$ using any method that makes sense to you. Show your thinking with drawings, numbers or words."
- 4 minutes: independent work time
- 3 minutes: partner work time
- Monitor for students who represent composing a ten in different ways, including with connecting cubes and with different equations.

Synthesis

- "How are Elena and Andre's methods the same? How are they different?" (They are

- $6 + 4 = 10$
  $10 + 64 = 74$
- $6 + 8 = 14$
  $14 + 60 = 74$

the same because they both made a ten. They are different because Elena showed making a ten with the 4 ones from 34 and 6 ones from the 9. Andre made a ten with the 9 ones and one of the ones from 34.)

- Invite previously identified students to share their representations for $6 + 68$. Consider beginning with students who used connecting cubes to show composing a ten before students who use only equations.
- If needed, record student thinking with base-ten drawings and equations (see activity narrative for an example).
- "How does this equation match the representation?" (They drew 6 tens and 8 ones for 68 and 6 ones for the 6. They showed they combined the 8 ones with 2 ones to make a ten. That matches the part of the equation that shows $8 + 2$. They showed they counted 60, 70, and 4 more to get to 74. That matches where they wrote $60 + 10 + 4 = 74$.)

Activity 3

15 min

Introduce Target Numbers, Add Ones

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to learn a new center called Target Numbers. Students add a one-digit number to a two-digit number with composing a ten in order to get as close to 95 as possible. Students start their first equation with 55 and turn over a number card and add it to their starting number for the round. The sum becomes the first addend in the next round. The player who gets closest to 95 in 6 rounds, without going over, is the winner. Students may use any method they want to find the value of each sum, but should be encouraged to think about how

they can decompose the one-digit number in order to compose a new ten. Students write an equation to represent each round. During the activity synthesis, the teacher records equations that match student thinking and encourages students to make connections between the equation and how the student found the sum.

Materials to Gather

Connecting cubes in towers of 10 and singles, Number cards 0–10

Materials to Copy

Target Numbers Stage 1 Recording Sheet (groups of 1)

Launch

- Groups of 2
- Give each group a set of number cards, two recording sheets, and access to connecting cubes in towers of 10 and singles.
- "Remove the cards that show 0 or 10."
- "We are going to learn a new center called Target Numbers. Let's play a round together. First, mix up your number cards."
- 30 seconds: partner work time
- "We start at 55, pick a number card, and find the sum of the numbers."
- Demonstrate picking a card and thinking aloud as you find the sum of 55 and the number on the card, highlighting making a new ten if appropriate.
- "Check with your partner to make sure they agree on the sum. If your partner agrees, then you record an equation to represent the round."
- Demonstrate writing the equation.
- "After you write your equation, the sum becomes your starting number for the next round, so you write it in as the first number in the next equation."
- If needed, play another round with the class.
- "Play six rounds. The player who gets closest to 95 without going over is the winner."

Activity

- 10 minutes: partner work time
- Monitor for two students who find the sum in different ways.

Synthesis

- Invite previously identified students to share.
- Record student thinking using equations.

Lesson Synthesis

10 min

"Today we added two-digit and one-digit numbers and wrote equations. Choose one of your favorite equations from the game we played. Explain to a partner how you found the sum. You may use connecting cubes or drawings to help you explain your method."

Display the sentence frame: "I heard you say . . . ."

"After your partner shares, restate what you heard. Then, ask your partner if you restated their thinking accurately."

Repeat as time allows.

Lesson 7: Does it Make a New Ten?

Standards Alignments

Addressing 1.NBT.C.4

Teacher-facing Learning Goals

- Add a one-digit and a two-digit number and recognize when a new ten will be composed.
- Write equations that represent addition methods.

Student-facing Learning Goals

- Let's add one-digit and two-digit numbers and write equations.

Lesson Purpose

The purpose of this lesson is for students to add one-digit numbers and two-digit numbers, and recognize when a new ten will be composed. They write equations to represent their addition methods.

In previous lessons, students added one-digit and two-digit numbers with composing a ten. They discussed methods that involved counting on, adding ones and ones then tens, and decomposing the one-digit number to make a new ten with the two-digit number.

In this lesson, students consider when a new ten will be composed before they find the value of a sum. When students recognize that they can compose a new unit of ten whenever the ones digits make 10 or more ones, they look for and make sense of the base-ten structure of numbers (MP7). Students write equations that represent their thinking.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Action and Expression (Activity 1)

English Learners

- MLR6 (Activity 2)

Instructional Routines

Which One Doesn't Belong? (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

At what points during the lesson did you learn the most about your students' thinking? How did you use what you learned during this lesson and how will you use what you learned in tomorrow's lesson?

Cool-down (to be completed at the end of the lesson)

5 min

Keep On Adding

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Find the value of $8 + 57$.
Write equations to show how you found the value.

Student Responses

65. Sample responses: $8 + 57 = 65$, $57 + 3 + 5 = 65$

Begin Lesson

Warm-up

10 min

Which One Doesn't Belong: Expressions

Standards Alignments

Addressing 1.NBT.C.4

This warm-up prompts students to compare four expressions. It gives the teacher an opportunity to hear how students talk about the characteristics of addends and use terminology related to the digits, the values of the addends, and the value of the sum.

Instructional Routines

Which One Doesn't Belong?

Student-facing Task Statement

Which one doesn't belong?

A

$7 + 9$

B

$22 + 5$

C

$32 + 8$

D

$44 + 8$

Student Responses

Sample responses:

- A is the only one that doesn't add a two-digit number.
- B is the only expression where you don't make a new ten.
- C is the only expression that makes exactly a new ten.
- D is the only expression that has a sum over 50.

Launch

- Groups of 2
- Display the image.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- 2–3 minutes: partner discussion
- Share and record responses.

Synthesis

- "Let's find at least one reason why each one doesn't belong."

Activity 1

15 min

A Ten or Not a Ten?

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to use place value reasoning and properties of operations to determine whether they would compose a ten when adding a two-digit and a one-digit number.

Students write equations to show how they solved such as:

$$\begin{aligned} 9 + 63 \\ 63 + 7 = 70 \\ 70 + 2 = 72 \end{aligned}$$

$$\begin{aligned} 9 + 63 \\ 9 + 3 = 12 \\ 12 + 60 = 72 \end{aligned}$$

It is not important that students write their equations in this way, but it is important that they can relate each part of the equation to how they found the sum.

Students may write $63 + 7 = 70 + 2 = 72$. Since this equation is not true, it is important to remind students that the equal sign means "the same amount as" and that it is necessary to use two separate equations.

Access for Students with Disabilities

Action and Expression: Develop Expression and Communication. Provide students with alternatives to writing their explanations on paper: students can share their learning orally or using double 10-frames, two-color counters, and connecting cubes in towers of 10 and singles.
Supports accessibility for: Language, Conceptual Processing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Jada likes to look for ways to make a new ten when she adds. Would she be able to a make a new ten when she adds to find the value of these sums?

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

If Jada could make a new ten, circle "Yes."
If Jada could not make a new ten, circle "No."

1. Does the expression make a new ten?

$45 + 5$

Yes No

Explain how you know.

Find the value.

Write equations to show how you found the value of the sum.

2. Does the expression make a new ten?

$9 + 63$

Yes No

Explain how you know.

Find the value.

Write equations to show how you found the value of the sum.

3. Does the expression make a new ten?

$26 + 3$

Yes No

Explain how you know.

Find the value.

Write equations to show how you found the value of the sum.

4. Does the expression make a

Activity

- Read the task statement.
- 5 minutes: independent work time
- 3 minutes: partner discussion
- Monitor for students who:
  - can explain why the expression does or doesn't make a new ten, without finding the sum.
  - use connecting cubes to show why there are or are not enough ones to make a new ten without representing the entire sum.

Synthesis

- Invite previously identified students to share.
- "Let's think some more about how we know whether or not we will make a new ten."

new ten?

$8 + 47$

Yes No

Explain how you know.

Find the value.

Write equations to show how you found the value of the sum.

Student Responses

1. Yes. Sample response: I know that 5 and 5 is 10. $40 + 5 + 5 = 50$
2. Yes. Sample response: I know that $3 + 7 = 10$. Since 9 is more than 7, the sum is over 10. $63 + 7 + 2 = 72$.
3. No. Sample response: When I add the ones I only get 9 ones. $6 + 3 = 9$, $26 + 3 = 9$
4. Yes. Sample response: I showed 4 tens 7 ones and 8 ones. I know that 4 tens 7 ones and 3 ones makes 50. $50 + 5 = 55$.

Advancing Student Thinking

If students write equations that do not match their method for finding the sum, consider asking:

- "How did you find the sum?"
- "What equation could we write to represent your first step? Next step?"

Activity 2

20 min

Missing Numbers

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to deepen their understanding of place value and properties of operations when adding one-digit numbers and two-digit numbers. Students find an unknown addend that fits a specific rule for each expression. Some expressions have more than one number that fits the rule. As students complete each expression, they look for and make use of structure (MP7) as they think about whether or not the ones in the two numbers will combine to make a new 10.

During the activity synthesis, students look at different one-digit numbers that would make or not make a new ten when added to 16. In the lesson synthesis, students share their answers to the last problem in the task which encourages them to make generalizations (MP8).

Access for English Learners

MLR6 Three Reads. Keep books or devices closed. To launch this activity, display only the problem stem for the first problem, without revealing the question. "We are going to read this story problem three times." After the 1st Read: "Tell your partner what happened in the story." After the 2nd Read: "What question might we be asked to solve?" Reveal the question. After the 3rd Read: "What are different ways we can solve this problem?"
Advances: Reading, Representing

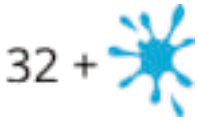
Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Lin's brother spilled water on her math work! Figure out what number Lin wrote before it got smudged.

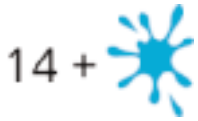
1. Lin wrote a one-digit number with which you *can* make a new ten when you find the value of the sum.



What could Lin's number be?
Write equations to show your thinking.

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- Read the task statement.
- Display:



- "Lin wrote a one-digit number where the smudge is. She said you can not make a new ten when you find the value of the

2. Lin wrote a one-digit number with which you *can not* make a new ten when you find the value of the sum.

What could Lin's number be?
Write equations to show your thinking.

3. Lin wrote a two-digit number with which you *can* make a new ten when you find the value of the sum.

What could Lin's number be?
Write equations to show your thinking.

4. Lin wrote a two-digit number with which you *can not* make a new ten when you find the value of the sum.

What could Lin's number be?
Write equations to show your thinking.

5. How do you know whether or not you can make a new ten when you are finding the value of a sum?

Student Responses

1. 8 or 9. Sample responses: $32 + 8 = 40$, $32 + 8 + 1 = 41$
2. 0, 1, 2, or 3. Sample responses: $16 + 0 = 16$, $16 + 1 = 17$, $16 + 2 = 18$, $16 + 3 = 19$.
3. Any two-digit numbers with 2, 3, 4, 5, 6, 7, 8, or 9 ones. Sample response: $32 + 8 = 40$
4. Any two-digit numbers with 0 or 1 one. Sample response: $81 + 8 = 89$.
5. Sample response: You can look at the number of ones in each number and see if they add up to 10 or more.

sum. What number could she have written?" (0, 1, 2, 3, 4, or 5)

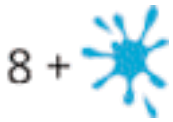
- 30 seconds: quiet think time
- 1 minute: partner discussion
- "Are there other numbers she could have written?"
- Record responses.

Activity

- 5 minutes: independent work time
- 5 minutes: partner discussion
- Monitor for students with a range of responses for the last two questions.

Synthesis

- Display



- "What two-digit numbers can she add that will make a new ten?" (12, 35, 49)
- "What two-digit numbers can she add that will not make a new ten?" (11, 30, 41)
- "What do you notice about each list of numbers?" (If she doesn't make a new ten, the number can only have 0 or 1 in the ones place, but it can have any number in the tens place. If she does make a new ten, the number can have 2, 3, 4, 5, 6, 7, 8, or 9 in the ones place.)

Advancing Student Thinking

If students choose numbers that do not follow Lin's rule or show they believe that only one number could follow the rule for a problem, consider asking:

- "What needs to be true about Lin's number for this sum?"
- "How do you know your number works? How could you prove your thinking with the connecting cubes?"
- "Are there other numbers Lin could have written? How could you prove it with the connecting cubes or a drawing?"

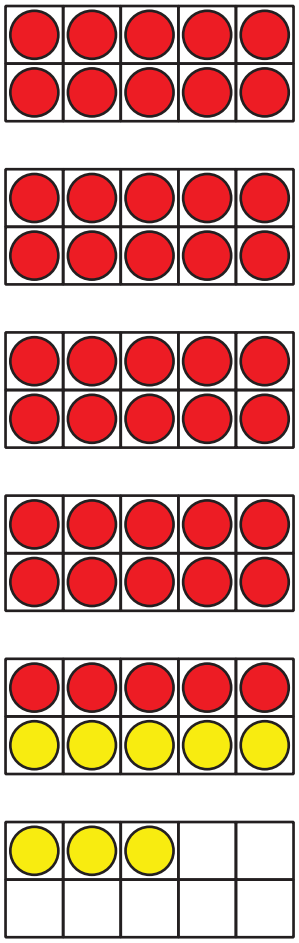
Lesson Synthesis

10 min

"Today we looked at addition expressions and determined if you could make a new ten or not. How does knowing that you might have to make a new ten help you decide what method to use?" (If I know I have to make a new ten, I do that first. Then I add the rest of the ones. I add the ones and ones then the tens either way so it doesn't change my method.)

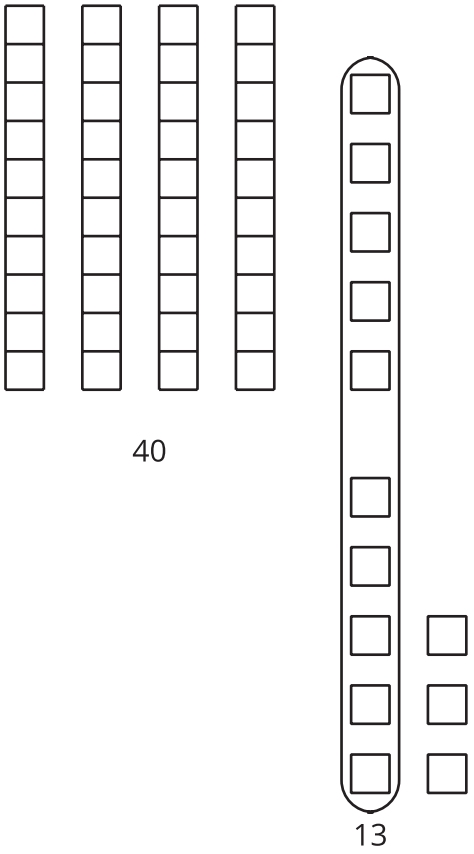
Student Section Summary

We added one-digit numbers and two-digit numbers.
We used different methods to add.
We learned you can think of counting on to make a new ten.



$$45 + 8$$
$$45 + 5 + 3 = \boxed{53}$$

We also saw you can think of adding all the ones and then the tens.
Sometimes when you add the ones you might be able to make a new ten.



$5 + 8 = 13$
$40 + 13 = 53$

Complete Cool-Down

Response to Student Thinking

Students count on by one to find the value of the sum.

Next Day Support

- During the synthesis of the warm-up, use connecting cubes in towers of 10 and singles to demonstrate making a new ten in order to find the value of the sum and write the matching equations.

Lesson 8: Center Day 2

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.C.6, 1.OA.D.8

Teacher-facing Learning Goals

- Add within 100.

Student-facing Learning Goals

- Let's add within 100.

Lesson Purpose

The purpose of this lesson is for students to practice adding within 100.

In the first activity students learn stage 2 of the Target Numbers center. In the second activity, students choose from previously introduced centers that focus on adding within 100. The third activity, which is optional, gives students the opportunity to work with numbers up to 100 in the context of story problems.

Access for:

Students with Disabilities

- Engagement (Activity 2)

English Learners

- MLR8 (Activity 1)

Instructional Routines

Number Talk (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 3
- Materials from previous centers: Activity 2
- Number cards 0–10: Activity 1

Materials to Copy

- Target Numbers Stage 2 Recording Sheet (groups of 1): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min

Teacher Reflection Question

How are students working together during center time? Are all students getting the opportunity to participate in the mathematics?

Activity 2	25 min
Activity 3	10 min
Lesson Synthesis	10 min

Begin Lesson

Warm-up

10 min

Number Talk: Add Within 100

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this Number Talk is to elicit strategies and understandings students have for adding one-digit and two-digit numbers. When recording students' thinking, record using expressions that match student methods. For example as a student is explaining $45 + 7$, you may write $45 + 5 + 2$.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $68 + 2$
- $3 + 68$
- $5 + 45$
- $45 + 7$

Student Responses

- 70: I counted on, 68...69, 70.
- 71: $68 + 2$ is 70. I still have 1 more to add,

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

Activity

- Record answers and strategy.
- Keep expressions and work displayed.
- Repeat with each expression.

so $70 + 1$ is 71.

- 50: I know $5 + 5$ is 10. If I add $40 + 10$ I get 50.
- 52: $45 + 5$ is 50. I still have 2 more to add, so $50 + 2$ is 52.

Synthesis

- "How are $68 + 2$ and $45 + 5$ alike?" (They both have a value that is a multiple of 10.)
- "How are $68 + 3$ and $45 + 7$ alike?" (The ones in both expressions make more than ten, so we can compose a ten to help us add.)

Activity 1

15 min

Introduce Target Numbers, Add Tens or Ones

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to learn stage 2 of the Target Numbers center. Students start with 25, choose a number card and decide whether to add that number of tens or ones. Students play six rounds and the student who gets as close to 95 as possible without going over is the winner.

Access for English Learners

MLR8 Discussion Supports. Prior to playing the game, invite students to make sense of the directions and take turns sharing their understanding with their partner. Listen for and clarify any questions about the directions.
Advances: Reading, Representing

Materials to Gather

Connecting cubes in towers of 10 and singles, Number cards 0–10

Materials to Copy

Target Numbers Stage 2 Recording Sheet (groups of 1)

Launch

- Groups of 2
- Give each group a set of number cards, two recording sheets, and access to connecting cubes in towers of 10 and singles.
- "Take out all of the cards that show 0 or 10."

- "We are going to learn a new way to play Target Numbers. This time, your goal is to get as close to 95 as you can, without going over. You only get 6 turns. On each turn, you get to decide whether you want to add tens or ones to your number. Let's play a round together. Each partner starts at 25."
- Demonstrate drawing a number card.
- "I drew a [4]. Should I add 4 ones or 4 tens? Why?" (You can add 4 tens because that will give you 65. You still have 5 rounds to get to 95. You can add 4 ones to make 29. That gives you more time to add tens.)
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- "I'm going to add 4 tens, 2 tens and 4 tens is 6 tens. So my sum is 65."
- "Once my partner and I agree on the sum, the partner who drew the number card records an equation. Since 25 is already filled in for me, I will record the number as tens (or ones) and the sum."
- Demonstrate completing the equation.
- "After I write my equation, the sum becomes my starting number for the next round, so I write it in as the first number in the next equation."
- If needed, play another round with the class.
- "Take turns drawing the number card, finding the sum and writing an equation. Each player plays 6 rounds. Whoever gets closest to 95 without going over is the winner."

Activity

- 10 minutes: partner work time

Synthesis

- "When you draw the number card, what is your method for deciding whether to add that

many tens or ones?" (I think about how close I am to 95. That helps me think about whether to add ones or tens.)

Activity 2

25 min

Centers: Choice Time

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.C.6, 1.OA.D.8

The purpose of this activity is for students to choose from activities that focus on adding within 100. Students choose from any stage of previously introduced centers.

- Target Numbers
- Number Puzzles
- Five in a Row

Access for Students with Disabilities

Engagement: Provide Access by Recruiting Interest. Provide choice and autonomy. Provide access to various tools such as connecting cubes in towers of 10 and singles and mini-whiteboards. *Supports accessibility for: Organization, Attention*

Materials to Gather

Materials from previous centers

Required Preparation

- Gather materials from previous centers:
  - Target Numbers, Stages 1 and 2
  - Number Puzzles, Stages 1-3
  - Five in a Row, Stages 1-5

Student-facing Task Statement

Choose a center.

Target Numbers

Number Puzzles

$14 = 8 + \square$

Five in a Row

Launch

- Groups of 2
- Display the student page.
- "Think about which activity you would like to do first."
- 30 seconds: quiet think time

Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- "Choose what you would like to do next."
- 10 minutes: center work time

Synthesis

- "What is one thing you learned or got better at by working on the activities you chose?"

Activity 3 (optional)

10 min

Addition Stories

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to experience different contexts in which someone adds a two-digit and a one-digit number. This helps students see math in their world. If necessary, the context of each problem can be changed to something more familiar to the students. This activity is optional because it provides practice solving story problems with numbers larger than 20, which is not an expectation of students in grade 1.

When students create representations and expressions for the context, they develop ways to model the mathematics of a situation and strategies for making sense of and persevering to solve

problems (MP1, MP4).

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

1. Priya watched a football game.
   The home team scored 35 points in the first half.
   In the second half they scored 6 more points.
   How many points did they score all together?
   Show your thinking using drawings, numbers, or words.
2. At the football game, 9 fans cheered for the visiting team.
   There were 45 fans who cheered for the home team.
   How many fans were at the game all together?
   Show your thinking using drawings, numbers, or words.

Student Responses

1. 41. Sample response: I added 35 and 5 to make 40 and then added 1 more.
2. 54. Sample response: $45 + 5 + 4 = 54$

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 3 minutes: independent work time
- 3 minutes: partner discussion

Synthesis

- Invite students to share the methods used for each problem. Record equations to match each method.

Lesson Synthesis

10 min

"How did you and your partner work together during centers? What went well? What can you continue to work on?" (I practiced listening to my partner's thinking and they practiced listening to mine. I need to work on being more patient with my partner.)

Section C: Make a Ten: Add Within 100

Lesson 9: Add 2 Two-digit Numbers

Standards Alignments

Addressing 1.NBT.C.4

Teacher-facing Learning Goals

- Add 2 two-digit numbers within 100, with composing a ten, in a way that makes sense to them.

Student-facing Learning Goals

- Let's add two-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to add 2 two-digit numbers within 100 in any way that makes sense to them, including composing a ten.

In previous lessons, students added a one-digit number and a two-digit number with composing a ten. They also added 2 two-digit numbers without composing a new ten. They discussed methods based on place value and the properties of operations. They wrote equations to show their thinking.

In this lesson, students add 2 two-digit numbers in any way that makes sense to them. Students may apply methods learned in previous lessons, including methods based on making a new ten or adding tens and tens and ones and ones. Students are not required to write equations, although some may do so.

Access for:

Students with Disabilities

- Action and Expression (Activity 1)

English Learners

- MLR7 (Activity 2)

Instructional Routines

5 Practices (Activity 1), Number Talk (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How effective were your questions in supporting students' thinking today? What did students say or do that showed they were effective?

Cool-down (to be completed at the end of the lesson)

5 min

Find the Value

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Find the value of $18 + 55$.
Show your thinking using drawings, numbers, or words.

Student Responses

73. Sample responses:

- Draws 18 as 1 ten and 8 ones. Draws 55 as 5 tens and 5 ones underneath. Draws and labels to show grouping 10 ones as 1 ten. Labels work to show adding or counting on $60 + 10 + 3 = 73$.
- $55 + 10 = 65$, $65 + 8 = 73$

Begin Lesson

Warm-up

10 min

Number Talk: Make a Ten

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this Number Talk is to elicit strategies and understandings students have for adding within 100. These understandings help students develop fluency and will be helpful later in this lesson when students need to be able to add 2 two-digit numbers within 100 with composing a ten. When students describe methods based on making a ten, adding tens and tens and ones and ones, and using known or previously found sums, they are looking for and making use of the base-ten structure and properties of operations (MP7).

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $38 + 2$
- $40 + 3$
- $38 + 5$
- $38 + 15$

Student Responses

- 40: I counted on, 38... 39, 40.
- 43: I know that $40 + 3$ is 43.
- 43: First I took 2 from the 5 and added it to 38 to get to 40. Then I still have 3 more to add and I know that $40 + 3 = 43$.
- 53: From the last problem I know that $38 + 5 = 43$. 15 is 10 more than 5 so I need to add 10 to 43. $43 + 10 = 53$.

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

Activity

- Record answers and strategy.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- "Who can restate _____ 's reasoning in a different way?"
- "How could the expressions $38 + 2$ and $40 + 3$ help you to find the value of $38 + 5$?" (The first one shows us adding part of 5 to get to 40 and then adding the rest in the second expression.)

Activity 1

20 min

How Did You Find the Value?

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to find the sum of 2 two-digit numbers in a way that makes sense to them.

Monitor and select students with the following methods, all of which use an understanding of place value in the two addends (MP7), to share in the synthesis:

- Start with 17, add 30, then add 6 ones ($17 + 30 = 47$, $47 + 6 = 53$)
- Start with 36, count on 1 ten, add 7 ones ($36 + 10 = 46$, $46 + 7 = 53$)
- Start with 36, add 4 ones to make a ten, add ten, add leftover ones ($36 + 4 = 40$, $40 + 10 + 3 = 53$)
- Combine the tens ($30 + 10 = 40$), combine the ones ($6 + 7 = 13$), then add the sums together ($40 + 13 = 53$)

Students may represent these methods in different ways, including using connecting cubes in towers of 10 and singles. Monitor for students who use connecting cubes or base-ten drawings to show making a new unit of ten as part of their method (MP5). In the activity synthesis, students compare different methods for finding the sum and make connections between them.

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to verbalize their method for finding the sum before they begin. Students can speak quietly to themselves, or share with a partner.
Supports accessibility for: Organization, Conceptual Processing, Language

Instructional Routines

5 Practices

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the value of $17 + 36$.
Show your thinking using drawings, numbers, or words.

Student Responses

53. Sample responses:

- Adds 30 and 10. Adds 6 and 7. Adds 40 and 13.
- Draws 3 tens 6 ones. Adds 1 ten, counts 46. Adds 7 ones, counts 47, 48, 49, 50, 51, 52, 53.
- Starts by adding 4 to 36. Adds 40, 10 and 3.

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 5 minutes: independent work time
- As students work, consider asking:
  - "How did you determine which parts to add first?"
  - "What did you do next?"
  - "What other way can you find the value of the sum?"
- "Share your thinking with your partner."
- 2 minutes: partner discussion

Synthesis

- Invite previously identified students to share in the order in the activity narrative.
- As each student shares, record their thinking with drawings and numbers.
- After each student shares, ask:
  - "How did _____ find value of $17 + 36$?"
  - "Does anyone have any questions for _____?"

Advancing Student Thinking

If students find the value mentally, consider asking:

- "Can you explain how you found the value of the sum?"
- "How could you represent each step with an equation?"

Activity 2

15 min

Grab and Add

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to add 2 two-digit numbers represented as towers of 10 and single connecting cubes. In this activity, each student grabs a handful of towers of 10 and a handful of single cubes. They add their handfuls to a partner's handfuls. When using connecting cubes in this way, students may recall activities from prior lessons where they counted collections, and organize their addends into like units (tens and ones), make new tens, and count the result. Students may also add on ones to make a new ten so that one student has only tens and the other has some tens and ones to add on. Other students may represent their thinking with equations to show making a ten or adding tens and tens and ones and ones. During the activity synthesis, students discuss adding onto a two-digit number to compose a ten and adding tens and tens and ones and ones. The teacher records students thinking using base-ten drawings and equations and encourages students to explain how each representation shows the method used to determine the sum. For example, when finding the sum of 45 and 37, if the students add tens and tens and ones and ones by counting all the ones without making a new tower of 10, the teacher represents their thinking as: $45 + 37 = \square$

$70 + 12 = \boxed{82}$

Students should have opportunities to connect and compare this method and representation with those that do show physically making a new ten with connecting cubes or drawing to group 10 ones to make a unit of ten. Students will interpret base-ten drawings in the next lesson.

Access for English Learners

MLR7 Compare and Connect. Synthesis: After all methods have been presented, lead a discussion comparing, contrasting, and connecting the different approaches. Ask, "How are the strategies similar? How are they different?"
Advances: Representing, Conversing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Round 1:

Grab a handful of towers of ten and a handful of single cubes.

I have _____ cubes and my partner has _____ cubes.

How many cubes do you and your partner have altogether?
Show your thinking using drawings, numbers, or words.

Round 2:

I have _____ cubes and my partner has _____ cubes.

How many cubes do you and your partner have altogether?
Show your thinking using drawings, numbers, or words.

Round 3:

I have _____ cubes and my partner has _____ cubes.

How many cubes do you and your partner have altogether?
Show your thinking using drawings, numbers, or words.

Launch

- Groups of 4
- Give students access to connecting cubes in towers of 10 and singles.
- "We are going to play a game called Grab and Add. Each partner grabs a handful of towers and a handful of single cubes. You don't need to grab huge handfuls. First you each determine how many cubes you have, then determine how many cubes you and your partner have altogether. Show your thinking using drawings, numbers, or words."

Activity

- 10 minutes: partner work time
- Monitor for students who:
    - add on to a two-digit number to compose a new ten.
    - add tens and tens and ones and ones.

Synthesis

- Invite previously identified students to share.
- Record student thinking as base-ten drawings and equations.

Round 4:

I have _____ cubes and my partner has _____ cubes.

How many cubes do you and your partner have altogether?
Show your thinking using drawings, numbers, or words.

Student Responses

Sample response for $15 + 36$:

- 1 ten and 3 tens is 4 tens. 5 and 6 is 11. 40 and 11 is 51.
- 15 and 5 is 20. 20 and 31 is 51.

- "How does this drawing show how they found the sum?" (The picture shows the tens with the tens and the ones with the ones to find the total.)

Lesson Synthesis

10 min

"Today we saw different ways we can add two-digit numbers. What new method did you try today, or are you excited to try tomorrow?"

Complete Cool-Down

Response to Student Thinking

Students write something other than 73 as the value.

Next Day Support

- Encourage students who find sums mentally to check their thinking with connecting cubes in towers of 10 and singles.

Lesson 10: Tens and Tens, Ones and Ones

Standards Alignments

Addressing	1.NBT.C.4, 1.OA.D.8
Building Towards	1.NBT.C.4

Teacher-facing Learning Goals

- Add two-digit numbers by adding tens and tens and ones and ones.

Student-facing Learning Goals

- Let's add two-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to add 2 two-digit numbers using methods based on place value.

In the previous lesson, students added 2 two-digit numbers with composing a ten, in a way that made sense to them. This lesson focuses on adding tens and tens and ones and ones. This method is important because it sets students up to add multi-digit numbers in later grades. Students apply what they learned about the commutative and associative properties to see that it doesn't matter if they add tens and tens first or ones and ones first.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR2 (Activity 2)

Instructional Routines

How Many Do You See? (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2
- Materials from previous centers: Activity 3

Materials to Copy

- Number Puzzles Addition Stage 4 Gameboard (groups of 2): Activity 3

Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	15 min
Activity 3	15 min
Lesson Synthesis	10 min

Teacher Reflection Question

In what ways does the work of this lesson lay the foundation for student understanding of the standard algorithm for addition, which will be used in later grades?

Cool-down (to be completed at the end of the lesson)

0 min

Unit 5, Section C Checkpoint

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Lesson observations

Student Responses

- Add within 100 by counting on tens and ones.
- Add within 100 by combining tens and tens and ones and ones.
- Explain their addition method orally in a way others will understand.
- Represent their addition method on paper in a way others will understand.

Begin Lesson

Warm-up

10 min

How Many Do You See: Tens and Ones

Standards Alignments

Addressing 1.NBT.C.4

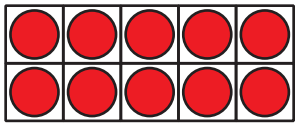
The purpose of this How Many Do You See is for students to subitize or use grouping strategies to describe the images they see. Students may put the tens together and the ones together, which is a method for adding that will be used later in this lesson. Students may also use the 10-frames to make a new ten in order to find the total number of counters.

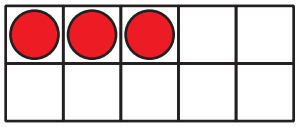
Instructional Routines

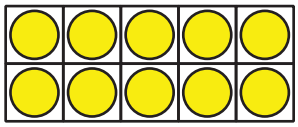
How Many Do You See?

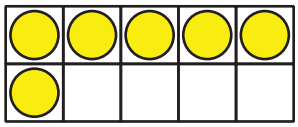
Student-facing Task Statement

How many do you see?
How do you see them?









Launch

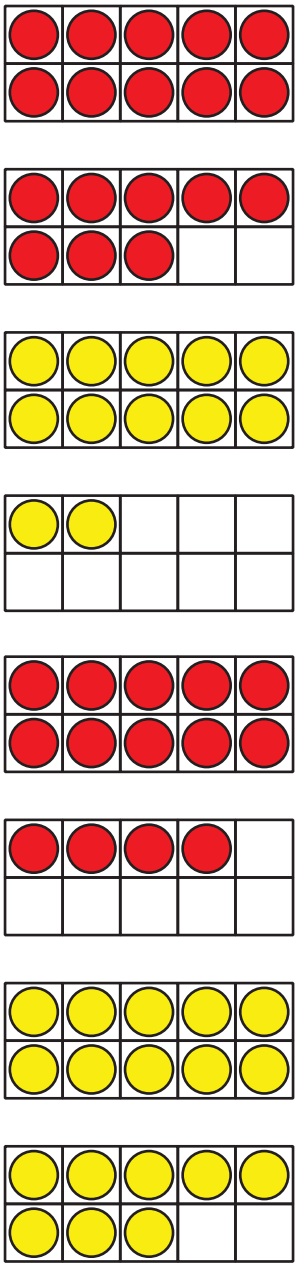
- Groups of 2
- "How many do you see? How do you see them?"
- Flash image.
- 30 seconds: quiet think time

Activity

- Display image.
- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Record responses.
- Repeat for each image.

Synthesis

- "Did anyone see the counters the same way but would explain it differently?"



Student Responses

- 29: There are 2 tens and that makes 20. $3 + 6$ is 9, so $20 + 9 = 29$.
- 30: $10 + 10$ is 20. I know that $8 + 2 = 10$, so $20 + 10 = 30$.
- 32: This time there are 18 yellow and 14 red. I already know that $18 + 12 = 30$. 14 is 2 more than 12, so the answer is 2 more than 30.

Activity 1

10 min

Priya's Work

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to analyze a base-ten drawing used to find the value of $37 + 26$, in which a student adds tens and tens and ones and ones. Students make sense of the method used, and consider what made the representation of this method easy for them to understand. This will be helpful when students are asked to represent their addition methods in a way that makes sense to others.

This activity uses MLR8 Discussion Supports. Advances: listening, speaking, conversing

Access for Students with Disabilities

Representation: Develop Language and Symbols. Make connections between the representations visible. For example, ask students to identify correspondences between the visual representation and the expression $37 + 26$.
Supports accessibility for: Visual-Spatial Processing, Conceptual Processing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the value of $37 + 26$.

Priya's work

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.

Activity

- Read the task statement.
- 2 minutes: independent work time
- "Share your thinking with your partner and work together to write an explanation of what Priya did."

How did Priya find the value?

Student Responses

Sample response: Priya added tens and tens and ones and ones. She added 30 and 20 to get 50, and 6 and 7 to get 13. It looks like she may have made a ten with 5 and 5, and then added $10 + 3 = 13$.

- 5 minutes: partner discussion

Synthesis

- Invite students to share how they interpreted Priya's work.
- "Representing our methods in a way that makes sense to others is very important. How did Priya make sure her representation would make sense to others?" (She showed each number clearly. She circled the tens to show she was adding them together. She circled 10 ones to show she made a new ten. She labeled the new ten and the extra ones.)

Activity 2

15 min

Finish the Work

Standards Alignments

Building Towards 1.NBT.C.4

The purpose of this activity is for students to consider the associative and commutative properties when adding 2 two-digit numbers. In the first two problems, a base-ten drawing and an expression representing adding tens and tens or ones and ones is given as the first step. Students

determine the next steps and find the sum. When students decompose the 2 two-digit numbers into tens and ones, combine the tens and ones, and then find the total, they use their place value understanding to make sense of addition (MP7).

During the activity synthesis, the teacher records students' thinking using premade posters of 34 and 57 as tens and ones. Students discuss that you can add the parts of the numbers in any order.

Access for English Learners

MLR2 Collect and Display. Circulate, listen for and collect the language students use as they work with a partner. On a visible display, record words and phrases such as: "First, . . . ," "Next, . . . ," "tens," "ones," "sum." Invite students to borrow language from the display as needed, and update it throughout the lesson.
Advances: Conversing, Speaking, Listening

Materials to Gather

Connecting cubes in towers of 10 and singles

Required Preparation

- Create two separate posters that show base-ten drawings of 34 and 57. Leave space to write equations underneath the drawings.

Student-facing Task Statement

1. Each expression shows a first step to find the number that makes each equation true. Finish the work to find the number that makes each equation true.
   Show your thinking using drawings, numbers, or words.

   a. $28 + 56 = \square$

   First step: $20 + 50$

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- Read the first problem.
- 4 minutes: partner work time
- "What is the difference between how you solved $28 + 56$ and $27 + 44$." (For $28 + 56$, I added the tens first, then the ones. For $27 + 44$ I added the ones first, then the tens.)
- 1 minute: partner discussion
- Share responses.

b. $27 + 44 =$ ☐

First step: $7 + 4$

2. Find the value of each sum.
   Show your thinking using drawings, numbers, or words.

   a. $34 + 57$

   b. $18 + 55$

Student Responses

1.

   a. 84. Sample response: Adds 20 and 50. Adds 8 and 6. Adds 70 and 14.

   b. 71. Sample response: Adds 7 and 4. Adds 20 and 40. Adds 60 and 11 to get 71.

2.

   a. 91. Sample response. 4 and 7 is 11. 30 and 50 is 80. $80 + 11 = 91$.

   b. 73. Sample response. $10 + 50 = 60$, $8 + 2 + 3 = 13$, $60 + 13 = 73$.

Activity

- Read the next problem.
- 4 minutes: independent work time
- 2 minutes: partner discussion
- Monitor for a student who starts by adding the tens and a student who starts by adding the ones for $34 + 57$.

Synthesis

- Invite previously identified students to share.
- Use the prepared posters to represent each student's thinking.
- "How are these methods the same? How are they different?" (They both add tens and tens and ones and ones. One person added ones first and the other added tens first. They got the same answer whether they added tens first or ones first.)
- "Why do they both work?" (You can add in any order and you still get the same number.)

Activity 3

15 min

Introduce Number Puzzles, Within 100 with Composing

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8

The purpose of this activity is for students to learn stage 4 of the Number Puzzles center. Students work together to use digit cards to make addition equations within 100 with composing a ten. Each digit card may only be used one time on a page.

Materials to Gather

Materials from previous centers

Materials to Copy

Number Puzzles Addition Stage 4 Gameboard (groups of 2)

Required Preparation

- Each group of 2 needs a set of digit cards from the previous center, Number Puzzles.

Launch

- Groups of 2
- Give each group a set of cards and gameboards.
- "These number puzzles have addition equations with two-digit numbers. Use the digit cards to make each equation true. Remember that you can only use each card once on a page."

Activity

- 10 minutes: partner work time

Synthesis

- Display a gameboard.
- "Which equation can you fill in first?"

Lesson Synthesis

10 min

Display posters from the Activity 2 synthesis.

"Today we added tens and tens and ones and ones and saw that we can add the ones first or the tens first. Do you prefer to add the ones first or the tens first? Why do you like that method better?" (I like to add the tens first because they come first in the number. I like to add the ones first because I like to add numbers that make a new ten.)

Lesson 11: How Did You Do That?

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.7

Teacher-facing Learning Goals

- Add 2 two-digit numbers using methods based on place value and properties of operations.
- Make sense of equations that represent addition methods.

Student-facing Learning Goals

- Let's add two-digit numbers and make sense of equations.

Lesson Purpose

The purpose of this lesson is for students to add 2 two-digit numbers, with composing a ten, using methods based on place value and properties of operation and make sense of equations that represent addition methods.

In previous lessons, students added 2 two-digit numbers using methods based on place value and properties of operations. In this lesson, students add 2 two-digit numbers and make sense of the equations that represent addition methods.

The cool-down should be completed before the lesson synthesis.

Access for:

Students with Disabilities

- Engagement (Activity 2)

English Learners

- MLR7 (Activity 2)

Instructional Routines

MLR8 Discussion Supports (Activity 1), True or False (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2
- Tools for creating a visual display: Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How did your students represent their thinking today? How might you support them in creating more efficient representations?

Cool-down (to be completed at the end of the lesson)

5 min

Which Method Do You Like?

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Circle the way you prefer to find the value of $37 + 25$.
You may write in a different method if you would like.

Method 1

$30 + 20 = 50$
$7 + 5 = 12$
$50 + 12 = 62$

Method 2

$37 + 3 + 2 = 42$
$42 + 20 = 62$

Method 3

$25 + 30 = 55$
$55 + 5 + 2 = 62$

My Own Way
(Write it in!)

Why do you like this method?

Student Responses

Sample responses:

- I like the first one because I know how to add tens and tens and ones and ones easily. I like to start by adding the tens.

Begin Lesson

Warm-up

10 min

True or False: Add to a Two-digit Number

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.7

The purpose of this True or False is to elicit strategies students have for adding within 100 using methods based on place value. As students reason about how to add the digits in the two addends, they make use of base-ten structure (MP7).

Instructional Routines

True or False

Student-facing Task Statement

Decide if each statement is true or false. Be prepared to explain your reasoning.

- $24 + 3 = 54$
- $42 + 5 = 47$
- $42 + 30 = 45$

Student Responses

- False: The 3 is only 3 ones, not 3 tens. $24 + 3 = 27$
- True: $2 + 5 = 7$ and $7 + 40 = 47$
- False: 45 is only 3 more than 42, not 30 more. It should be 72.

Launch

- Display one statement.
- "Give me a signal when you know whether the statement is true and can explain how you know."
- 1 minute: quiet think time

Activity

- Share and record answers and strategy.
- Repeat with each statement.

Synthesis

- "How can you explain your answer without finding the value of both sides?"

Activity 1

15 min

How Much Litter?

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to interpret equations that represent different methods for addition. When students connect the quantities in the story problem to addition equations, they reason abstractly and quantitatively (MP2). Base-ten drawings are provided for Jada and Kiran's way so that students can use the drawings and the equations to make sense of the different methods. Students compare methods that add tens and tens and ones and ones to methods that add on by place. Students may also relate the methods used by Kiran and Tyler to the make 10 methods they use when adding within 20.

This activity uses *MLR8 Discussion Supports. Advances: listening, speaking*

Instructional Routines

MLR8 Discussion Supports

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Mai and her classmates volunteer to clean up the local park.
They pick up 37 plastic bottles and 25 paper wrappers.
How many pieces of litter did they pick up all together?

Jada, Kiran, and Tyler find the value of $37 + 25$

Launch

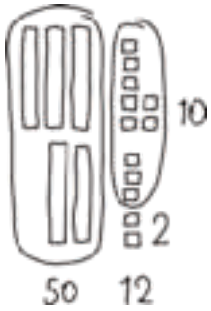
- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- Display the image and story problem.
- Read the problem.
- "What is this problem about?" (Kids who are cleaning up a park. People picking up litter.)
- "What would you do to figure out how many pieces of litter they picked up?" (I would add 37 and 25.)
- "Jada, Kiran, and Tyler figure out how many pieces of litter Mai's class picked up, but they do it in different ways. With your partner, explain how each student found the value of $37 + 25$. Be ready to explain your thinking in a way that others will

to find out how many pieces of litter Mai's class picked up.

$$37 + 25$$

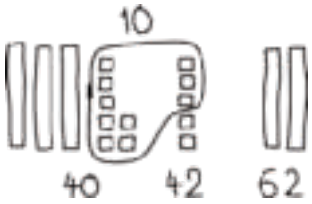
Jada's way:

$30 + 20 = 50$
$7 + 5 = 12$
$50 + 12 = 62$



Kiran's way:

$37 + 3 + 2 = 42$
$42 + 20 = 62$



Tyler's way:

$37 + 20 = 57$
$57 + 3 + 2 = 62$

Student Responses

- Jada added 3 tens and 2 tens. Then she added 7 ones and 5 ones. Then she added the tens and ones together.
- Kiran started with 37 and added 3 ones from 25. Then he added the other 2 ones to get 42. Then he added 42 to the 2 tens that were left.
- Tyler added the 2 tens to 37 to get 57. Then he added the 3 ones to get 60. Then he added the 2 ones that were left and got 62.

understand."

Activity

- 5-7 minutes: partner work time
- Monitor for students who can explain each method:
  - by connecting the drawings and the equations.
  - by describing how the student thought about adding tens and ones.
  - by describing how the student made a ten.

Synthesis

- Invite previously identified students to share.

MLR8 Discussion Supports

- "Who can restate what ____ shared in their own words?"
- 30 seconds: quiet think time
- Consider providing students time to restate what they heard to a partner before selecting one or two students to share with the class.
- Ask the original speaker if their peer was accurately able to restate their thinking.

Activity 2

20 min

It's Your Turn to Add

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to find the sum of 2 two-digit numbers using one of the methods students have seen in previous activities. Students choose which method they would like to use and show their thinking using drawings, numbers or words. Although students have been analyzing base-ten drawings, if they are ready to represent their addition methods with equations, they should be encouraged to do so. Students participate in a gallery walk in which they observe the different ways the addition methods can be represented.

Access for English Learners

MLR7 Compare and Connect. Synthesis: After the Gallery Walk, lead a discussion comparing, contrasting, and connecting the different posters. To amplify student language, and illustrate connections, follow along and point to the relevant parts of the displays as students speak.
Advances: Representing, Conversing

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Check in and provide each group with feedback that encourages collaboration and community. For example, choose one of your Math Community norms to give feedback on.
Supports accessibility for: Social-Emotional Functioning, Attention

Materials to Gather

Connecting cubes in towers of 10 and singles,
Tools for creating a visual display

Student-facing Task Statement

Find the value of $23 + 68$.
Show your thinking using drawings, numbers, or words.

If you have time: Think about a math story this expression could represent.
Share your stories with a partner.

Launch

- Groups of 2
- Give each group tools for creating a visual display and access to connecting cubes in towers of 10 and singles.
- "You are going to find the value of $23 + 68$ with your partner. Choose one of the methods from the previous activity and work together to use it to find the value. Show your thinking using drawings, numbers, or words. Come to an agreement

Student Responses

91. Sample responses:

- $60 + 20$, $8 + 3$, $80 + 11 = 91$
- Combines 68 and 2 to get 70, adds 1 to get 71. $71 + 20 = 91$
- $68 + 20 = 88$, $88 + 2 = 90$, $90 + 1 = 91$.

about the steps you will use and how you will represent them."

- 3 minutes: partner discussion

Activity

- "Create a visual display that shows how you and your partner found the value of $23 + 68$. You may want to include drawings and numbers to help others understand your thinking."
- 5-7 minutes: partner work time

Synthesis

- "With your partner, look at the posters and talk about what you notice. Do any of the posters show Jada's, Kiran's, or Tyler's method? How do you know?"
- 6 minutes: gallery walk

Lesson Synthesis

10 min

"In a previous lesson, we broke apart both two-digit numbers and added the tens and tens and ones and ones. Today we broke apart two-digit numbers in different ways. We looked for ways to make a new ten and ways to add on tens and ones. Which method do you prefer? Why do you like that method better?"

Invite students to share responses to the cool-down.

Complete Cool-Down

Response to Student Thinking

Students circle a preferred method but do not explain why they like that method.

Next Day Support

- During the synthesis of the first activity, invite students to share why they like the

method they chose.

Lesson 12: Add it Up

Standards Alignments

Addressing 1.NBT.C.4

Teacher-facing Learning Goals

- Add 2 two-digit numbers using methods based on place value and properties of operations.
- Write equations to represent addition methods.

Student-facing Learning Goals

- Let's add two-digit numbers and write equations.

Lesson Purpose

The purpose of this lesson is for students to add 2 two-digit numbers, with composing a ten, using methods based on place value and properties of operations. Students write equations to represent addition methods.

In this lesson, students practice explaining their methods for adding two-digit numbers based on place value and the properties of operations (MP3). In the first activity, students are invited to choose any method that makes sense to them to add within 100 and explain their method to their peers. In the second activity, students use what they have learned about place value and methods for adding to create expressions that meet different constraints. Throughout the lesson, monitor for ways students are reasoning about place value and the structure of numbers (MP7).

Activity 3 is an optional activity that offers practice adding within 100 in real-world contexts.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 2)

English Learners

- MLR8 (Activity 2)

Instructional Routines

MLR8 Discussion Supports (Activity 1), Number Talk (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2, Activity 3

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Activity 3	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

As you finish up this unit, reflect on the norms and activities that have supported each student in learning math. How have you seen each student grow as a young mathematician throughout this work? How have you seen yourself grow as a teacher? What will you continue to do and what will you improve on in Unit 6?

Cool-down (to be completed at the end of the lesson)

5 min

Add Within 100

Standards Alignments

Addressing 1.NBT.C.4

Student-facing Task Statement

Find the value of each sum.

1. $37 + 44$

   Write equations to represent your thinking.
2. $58 + 37$

   Write equations to represent your thinking.

Student Responses

1. 81. Sample response: $30 + 40 = 70$, $7 + 4 = 11$, $70 + 11 = 81$
2. 95. Sample response: $58 + 30 = 88$, $88 + 2 + 5 = 95$

Begin Lesson

Warm-up

10 min

Number Talk: Make a Ten

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this Number Talk is to elicit strategies and understandings students have for adding within 100. These understandings help students develop fluency and will be helpful later in this lesson when students add 2 two-digit numbers, with composing a ten, using methods based on place value and the properties of operations.

In this activity, students have an opportunity to look for and make use of structure (MP7) because they decompose addends to make a new ten.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $7 + 3$
- $37 + 3$
- $7 + 8$
- $57 + 8$

Student Responses

- 10: I know that $7 + 3 = 10$
- 40: I can add the ones which is $7 + 3$. Then I add that 10 to 30.
- 15: $7 + 3 = 10$. So far I have added 3 of the 8 and have 5 left. $10 + 5 = 15$.
- 65: Since I know $7 + 8 = 15$, $50 + 15 = 65$

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

Activity

- Record answers and strategy.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- "How could $7 + 3$ help you solve $37 + 3$?" (I know 37 is 3 more tens than 7. Since I know $3 + 7$ is 10, I need to add $30 + 10$.)
- "How could $7 + 3$ help you solve $7 + 8$?" ($7 + 3 = 10$. So far I have added 3 of the 8 and have 5 left. $10 + 5 = 15$.)

- "How could $7 + 8$ help you solve $57 + 8$?" (Since I know $7 + 8 = 15$, I can add $50 + 15 = 65$)

Activity 1

15 min

Add Two-digit Numbers Within 100

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to add 2 two-digit numbers within 100 and show their thinking with equations. Although some students may write each step of their thinking with equations, it is not required that they do so. Students can write one equation that shows the sum and represent their solution pathway in their drawings. In the activity synthesis, students present their method verbally to a new partner.

This activity uses *MLR8 Discussion Supports. Advances: listening, speaking, conversing*

Instructional Routines

MLR8 Discussion Supports

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Find the value of each sum using any method that you want.
Show your thinking using drawings, numbers, or words.
Write equations to represent your thinking.

1. $48 + 15$

2. $57 + 36$

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- "We have been learning about different ways to add within 100. You are going to find sums using a method that makes most sense to you for each problem. Record equations to show your thinking."

Student Responses

1. 63. Sample response:
   $8 + 2 + 3 = 13$, $40 + 10 = 50$, $50 + 13 = 63$.
2. 93. Sample response: $57 + 3 + 3 = 63$,
   $63 + 30 = 93$.

Activity

- 5 minutes: independent work time
- "Compare your work with your partner's. Did you use the same method? Did you represent your method in the same way? How is your work the same? How is it different?"
- 5 minutes: partner work time
- Monitor for a student who wrote equations related to making ten and one who wrote equations related to adding by place.

Synthesis

MLR8 Discussion Supports:

- Display sentence frames to support students when they explain their method as equations:
  - "First, I _____ because . . ."
  - "I noticed _____ so I . . ."
- "You are going to explain your method to another student in the class. Practice what you will say with your partner. Use these sentence starters to help you."
- 3 minutes: partner discussion
- "Find a new partner and explain your method."
- 2 minutes: partner discussion

Activity 2

20 min

Reason About Addition

PLC Activity

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to use what they know about the base-ten structure of numbers to create different expressions. Students use place value reasoning to create expressions with the smallest and largest values and expressions that may or may not require composing a ten when adding using methods based on place value (MP7). In the synthesis, students explain how they reasoned about whether or not a new ten could be composed just by looking at the addends (MP3). Although some students may complete the activity without finding any sums, others may need to find partial sums or complete sums in order to explain what happens when adding.

Access for English Learners

MLR8 Discussion Supports. Synthesis: For each method that is shared, invite students to turn to a partner and restate what they heard using precise mathematical language.
Advances: Listening, Speaking

Access for Students with Disabilities

Representation: Access for Perception. Some students may benefit from hearing the instructions read aloud more than once.
Supports accessibility for: Attention, Language, Memory

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

37 22 18 56 41

Choose 2 numbers from above and write an addition expression to make each statement true.

- This sum has the smallest possible value.

Expression:_____

- This sum has the largest possible value.

Expression:_____

- You do not need to make a new ten to find the value of this sum.

Expression:_____

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- "Now we are going to use what we know about numbers and addition to think about what will happen when we add different numbers together. You may add the numbers if it is helpful, but you don't have to."

Activity

- 8 minutes: partner work time
- Monitor for students who write expressions without finding the value of the sums and can explain their reasoning.

- If you make a new ten to find the value of this sum, you will still have some more ones.

Expression:_____

- If you make a new ten to find the value of this sum, you will have no more ones.

Expression:_____

Be ready to explain your thinking in a way that others will understand.

If you have time: Choose 2 numbers from above and write an addition expression where the value is closest to 95.
How do you know the value is closest to 95?

Student Responses

1. $22 + 18$. Sample response: They are the 2 smallest numbers so they will have the smallest value.
2. $41 + 56$. Sample response: They are the 2 largest numbers so they will have the largest value.
3. $37 + 22$. Sample response: I know these numbers won't make a new ten because 7 ones and 2 ones is only 9 ones.
4. $18 + 56$. Sample response: 8 and 6 makes 14 so there is a new ten and 4 more ones.
5. $22 + 18$. 2 ones and 8 ones makes 10.

Synthesis

- Invite a previously identified student to share their expression that does not require making a new ten.
- "Are there other numbers you could use? How do you know?"
- Invite a student who found two numbers that make a ten without finding the sums to share.
- "Are there other numbers you could use? How do you know?"

Activity 3 (optional)

20 min

Ways We Volunteer

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to relate adding within 100 to real-world contexts. In previous lessons and activities, students have used different methods to add within 100. In this activity, students solve problems that help them see when this type of addition is used in people's lives. This activity is optional because it is an opportunity for extra practice that not all classes may need.

When students connect the quantities in the story problem to an equation, they reason abstractly and quantitatively (MP2).

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

1. Mai's school is having a book drive.
   They collect 48 children's books.
   They collect 27 adult books.
   How many books do they collect all together?
   Show your thinking using drawings, numbers, or words.
2. The community soup kitchen has lots of volunteers who help serve food.
   They have 35 volunteers during the week and 56 volunteers on the weekend.
   How many volunteers do they have all together?
   Show your thinking using drawings, numbers, or words.
3. Elena and her mother volunteer to plant a community garden in their neighborhood.

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- "We recently discussed a story problem about a class that volunteered to clean up their local park. What are some other ways you can volunteer to help in your community?" (You can volunteer at an animal shelter. You can help by donating food or clothes.)
- 30 seconds: quiet think time
- Share responses.
- "We are going to solve some more problems about people volunteering in different ways."

They plant 18 strawberry plants and 24 cucumber plants.
How many plants did they plant all together? Show your thinking using drawings, numbers, or words.

Student Responses

1. 75. Sample response: $48 + 20 = 68$, $68 + 2 + 5 = 75$
2. 91. Sample response: $30 + 50 = 80$, $5 + 6 = 11$, $80 + 11 = 91$
3. 42. Sample response: $10 + 20 = 30$, $8 + 4 = 12$, $30 + 12 = 42$

Activity

- 5 minutes: independent work time
- 5 minutes: partner discussion

Synthesis

- Invite students to share the methods used for each problem. Record equations to match each method.

Lesson Synthesis

10 min

"During this unit you learned how to add within 100. What are some things that you learned?" (I can add tens and tens and ones and ones. I can make ten when adding by breaking apart the ones.)

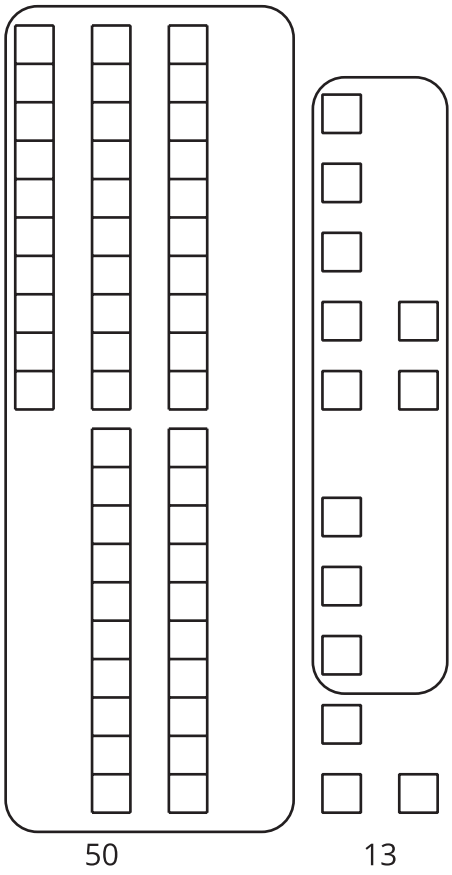
"What are you most proud of learning? What do you still need to work on?"

Student Section Summary

We learned to add any 2 two-digit numbers within 100 and write equations to represent our methods.

We added tens and tens and ones and ones.

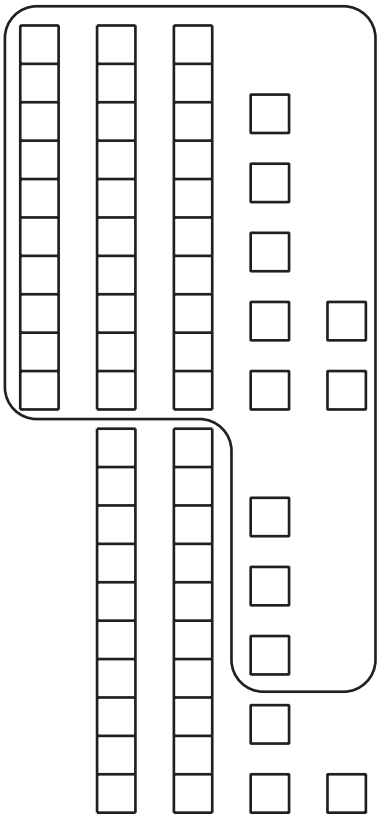
$$37 + 26$$
$$30 + 20 = 50$$
$$7 + 6 = 13$$
$$50 + 13 = 63$$



63

We added ones first to make a new ten.

$37 + 26$
$37 + 3 + 3 = 43$
$43 + 20 = 63$



Complete Cool-Down

Response to Student Thinking

Students add tens and tens and ones and ones, but only record $37 + 44 = 81$.

Next Day Support

- Create groups of students based on the methods used. Have students share the equations they wrote for both of the cool-down problems.

Lesson 13: Center Day 3

Standards Alignments

Addressing 1.NBT.A.1, 1.NBT.B.3, 1.NBT.C.4, 1.OA.C.5, 1.OA.C.6, 1.OA.D.8

Teacher-facing Learning Goals

- Add numbers within 100.

Student-facing Learning Goals

- Let's add 2 two-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to practice adding 2 two-digit numbers with composing a ten.

In each activity, a new stage of a center is offered as a choice as students choose from previously introduced centers. All of the centers focus on working with two-digit numbers.

Instructional Routines

Choral Count (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1
- Materials from previous centers: Activity 1, Activity 2
- Number cubes: Activity 1
- Paper clips: Activity 2
- Two-color counters: Activity 2

Materials to Copy

- Target Numbers Stage 3 Recording Sheet (groups of 1): Activity 1
- Five in a Row Addition and Subtraction Stage 6 Gameboard (groups of 2): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	20 min
Lesson Synthesis	10 min

Teacher Reflection Question

As students worked in centers today, whose ideas were heard, valued, and accepted? How can you adjust the group structure for your next center day, to ensure each student's ideas are heard?

Begin Lesson

Warm-up

10 min

Choral Count: Count Back from 100

Standards Alignments

Addressing 1.NBT.A.1

The purpose of this Choral Count is to invite students to practice counting backward by 1 and notice patterns in the count. These understandings help students develop fluency with the count sequence as well as the base-ten structure of numbers.

Instructional Routines

Choral Count

Student Responses

Record the count in rows, where the first number in each row is a multiple of 10.

Sample responses:

- The numbers are going backward.
- The digits in the ones place are the same if you look down the columns.

Launch

- "Count backward by 1, starting at 100."
- Record as students count.
- Stop counting and recording at 70.

Activity

- "What patterns do you see?"
- 1-2 minutes: quiet think time
- Record responses.

Synthesis

- "Who can restate the pattern in different words?"
- "Does anyone want to add an observation on why that pattern is happening here?"

Activity 1

20 min

Introduce Target Numbers, Add Two-Digit Numbers

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8

The purpose of this activity is for students to choose from activities focusing on two-digit numbers. Students are introduced to stage 3 of the Target Numbers center. Then students choose between that center or others previously introduced.

Students choose from any stage of previously introduced centers.

- Target Numbers
- Number Puzzles
- Mystery Number

Materials to Gather

Connecting cubes in towers of 10 and singles, Materials from previous centers, Number cubes

Materials to Copy

Target Numbers Stage 3 Recording Sheet (groups of 1)

Required Preparation

- Gather materials form previous centers:
  - Target Numbers, Stages 1-2
  - Number Puzzles, Stages 1-4
  - Mystery Number, Stage 1

Student-facing Task Statement

Choose a center.

Target Numbers

Launch

- Groups of 2
- “Today you will choose from centers we have already learned. One of the choices is to play Target Numbers in a new way. Just like last time, your target number is 95. You will roll two cubes to get your starting

Number Puzzles

$14 = 8 + \square$

Mystery Number

number. Then, on each turn, roll three cubes and choose one of the numbers to represent the tens and another number to represent the ones. Add the new number you made to your starting number and record your equation. Continue playing for six rounds to see who gets closest to 95 without going over."

- Display the center choices in the student book.
- "Think about what you would like to do first."
- 30 seconds: quiet think time

Activity

- 8 minutes: center work time
- "Choose what you would like to do next."
- 8 minutes: center work time

Synthesis

- "What did you like about the centers you chose?"

Activity 2

20 min

Introduce Five in a Row, Add within 100 with Composing

Standards Alignments

Addressing 1.NBT.A.1, 1.NBT.B.3, 1.NBT.C.4, 1.OA.C.5, 1.OA.C.6

The purpose of this activity is for students to choose from activities focusing on two-digit numbers. Students are introduced to stage 6 of the Five in a Row center. Then students choose between that center or others previously introduced.

Students choose from any stage of previously introduced centers.

- Five in a Row
- Get Your Numbers in Order
- Grab and Count

Materials to Gather

Materials from previous centers, Paper clips, Two-color counters

Materials to Copy

Five in a Row Addition and Subtraction Stage 6 Gameboard (groups of 2)

Required Preparation

- Gather materials from previous centers:
  - Five in a Row, Stages 1-6
  - Get Your Numbers in Order, Stage 1
  - Grab and Count, Stage 2

Student-facing Task Statement

Choose a center.

Five in a Row

Get Your Numbers in Order

Grab and Count

Launch

- Groups of 2
- "Now you will choose from other centers we have already learned. One of the choices is to play Five in a Row with a new gameboard. On this gameboard you will add 2 two-digit numbers that make a new ten."
- Display the center choices in the student book.
- "Think about what you would like to do first."
- 30 seconds: quiet think time

Activity

- 8 minutes: center work time
- "Choose what you would like to do next."
- 8 minutes: center work time

Synthesis

- "What did the centers you chose help you

work on?"

Lesson Synthesis

10 min

"How did you and your partner work together during centers? What went well? What can you continue to work on?"

Lesson 14: Food Drive (Optional)

Standards Alignments

Addressing 1.NBT.B, 1.NBT.C.4, 1.NBT.C.5, 1.NBT.C.6

Teacher-facing Learning Goals

- Add 2 two-digit numbers within 100 with composing a ten, in a way that makes sense to them.

Student-facing Learning Goals

- Let's add two-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to apply their understanding of adding two-digit numbers to a real-world context.

This lesson is optional because it does not address any new mathematical content standards. This lesson does provide students with an opportunity to apply precursor skills of mathematical modeling. In previous lessons, students found the value of sums within 100 using methods based on place value and the properties of operations, including adding tens and tens and ones and ones, and adding on by place.

In this lesson, students apply these methods to make sense of and solve real-world problems within 100. Students may use base-ten representations or equations to represent their thinking. In the warm-up, they are introduced to a food drive context. In the first activity, they solve problems which involve combining quantities of collected cans in various ways. In the second activity, students make choices about which numbers to combine based on their values and the constraints of the problem. Students may use trial and error to reach the target value. This gives them an opportunity to persevere in problem solving (MP1).

When students make and articulate mathematical choices and adhere to mathematical constraints, they model with mathematics (MP4).

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

English Learners

- MLR8 (Activity 1)

Instructional Routines

Estimation Exploration (Warm-up)

Materials to Gather

- Connecting cubes in towers of 10 and singles: Activity 1, Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	20 min
Lesson Synthesis	10 min

Teacher Reflection Question

Reflect on a time your thinking changed about something in class recently. How will you alter your teaching practice to incorporate your new understanding?

Begin Lesson

Warm-up

10 min

Estimation Exploration: Food Drive

Standards Alignments

Addressing 1.NBT.B

The purpose of an Estimation Exploration is to practice the skill of estimating a reasonable answer based on experience and known information. If needed, discuss what a food drive is in the launch of the activity.

Instructional Routines

Estimation Exploration

Student-facing Task Statement

How many cans did the first graders collect for the food drive?

Launch

- Groups of 2
- Display image.
- If necessary, “What is a food drive?”

Record an estimate that is:

too low	about right	too high

Student Responses

Sample responses

- Too low: 10-20
- About right: 40-60
- Too high: 100-200

- "What is an estimate that's too high? Too low? About right?"
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Record responses.

Synthesis

- "Is anyone's estimate less than ___? Is anyone's estimate greater than ___?"
- "Based on this discussion does anyone want to revise their estimate?"

Activity 1

20 min

Cans for the Food Drive

Standards Alignments

Addressing 1.NBT.C.4

The purpose of this activity is for students to apply their understanding of place value and properties of operations to solve two-digit addition real world problems (MP2). Students may use any method and representation that helps them make sense of the problems in context.

Access for English Learners

MLR8 Discussion Supports. Students who are working toward verbal output may benefit from access to mini-whiteboards, sticky notes, or spare paper to write down and show their responses to their partner.
Advances: Writing, Representing

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Student	Cans Collected
Lin	18
Priya	24
Han	13
Tyler	30

Partner A: Write an equation to represent your thinking.

1. How many cans did Lin and Priya collect altogether?
2. How many cans did Han and Tyler collect altogether?
3. How many cans did all four students collect altogether?

Partner B: Write an equation to represent your thinking.

1. How many cans did Tyler and Priya collect altogether?
2. How many cans did Lin and Han collect altogether?
3. How many cans did all four students collect altogether?

Student Responses

Sample response:

Partner A:

1. 42 cans. $18 + 24 = 42$
2. 43 cans. $13 + 30 = 43$
3. 85 cans. $42 + 43 = 85$

Partner B:

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- "The table shows the number of cans four students collected for their class' food drive."
- "What do you notice? What do you wonder?" (They collected a lot of cans. Tyler collected the most. Han collected the least. I wonder how many they collected all together.)

Activity

- Read the task statement.
- 6 minutes: independent work time
- "Check in with your partner. Be prepared to show or explain your thinking."
- 5 minutes: partner discussion

Synthesis

- Invite students to share the equations that show the total number of cans or display: $42 + 43 = 85$ and $54 + 31 = 85$
- "Many of you used these two equations to find how many cans were collected by all four students."
- "What are the similarities and differences?" (Both equal 85 and use the same information about four students, but each number represents the total for two different students.)
- "What other equations can we use to find the total number of cans collected by all four students?" ($18 + 24 + 13 + 30 = 85$,

1. 54 cans: $24 + 30 = 54$
2. 31 cans: $18 + 13 = 31$
3. 85 cans. $54 + 31 = 85$

$48 + 24 + 13 = 85$)

Activity 2

20 min

Boxes of Cans

Standards Alignments

Addressing 1.NBT.C.4, 1.NBT.C.5, 1.NBT.C.6

The purpose of this activity is for students to find pairs of numbers that have a value that is between 35-65. Some students may use trial and error to solve the problem. Encourage students to consider a strategic way to determine if a combination of two classes may or may not meet the constraint. For example, students may notice that combining 1st and 2nd grade will not work because 5 tens and 2 tens is 7 tens which is more than the 65 can limit.

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to verbalize their method for solving two-digit problems before they begin. Students can speak quietly to themselves, or share with a partner.
Supports accessibility for: Organization, Conceptual Processing, Language

Materials to Gather

Connecting cubes in towers of 10 and singles

Student-facing Task Statement

Room	Cans Collected on Day 1
Kindergarten	18
1st grade	51
2nd grade	23
3rd grade	13
4th grade	39

Launch

- Groups of 2
- Give students access to connecting cubes in towers of 10 and singles.
- "The whole school is collecting cans for a food drive. This table shows how many cans each grade collected on the first day

Room	Cans Collected on Day 1
5th grade	40
6th grade	8
7th grade	29
8th grade	30

Find different ways they can pack the cans from 2 grades in a box together and have 35 to 65 cans in each box.
Try to find as many different ways as you can.
Write an equation to represent your thinking.

If you have time: Can any box have cans from 3 grade levels?
What is the least amount of boxes the school can pack to send to the Food Bank?

Student Responses

Sample Responses:

- Kindergarten and 7th, $18 + 29 = 47$
- 1st, 51 cans
- 2nd and 8th, $23 + 30 = 53$
- 3rd and 5th, $13 + 40 = 53$
- 4th and 6th, $39 + 8 = 47$

If you have time:

- Yes. Sample response: Kindergarten, 6th, and 7th $18 + 8 + 29 = 55$
- 4. 1st and 3rd, 5th and 2nd, Kindergarten and 4th and 6th, 7th and 8th

of the food drive. The cans are brought down to the main office so the student council can pack them into boxes."

Activity

- Read the task statement.
- 10 minutes: partner work time
- Monitor for 2-3 partnerships who determine different box arrangements.

Synthesis

- Invite previously identified students to share.
- Record responses.
- "Is this statement true? 6th grade's cans can be packed with any other grade level." (Yes, since they only collected 8 cans and the highest amount of cans collected was 51 in 1st grade. $51 + 8 = 59$, which is still under 65 cans.)

Lesson Synthesis

10 min

"Today we represented and solved real world problems about a food drive and packing cans in boxes to take to the Food Bank."

"What methods did you use to determine which grade level's cans could be packed together in the boxes?" (I looked at the tens first and if they added up to between 40 and 50 I knew they would fit.

Then I added them to ones. First I thought about whether the ones would make a new ten and then added the tens to see if it fit between 35 and 65.)

"Which grade levels could not have their cans packed together? How do you know?" (1st and 4th because 5 tens and 4 tens is 90. 4th grade and 5th grade because 30 + 40 = 70, which is over the limit.)

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Family Support Materials

Family Support Materials

Adding Within 100

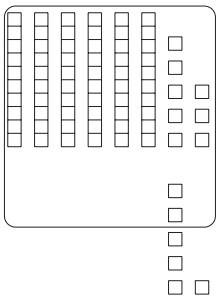
In this unit, students use place value understanding and properties of operations to add within 100.

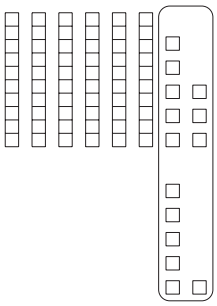
Section A: Add Without Making a Ten

In this section, students add a one-digit and a two-digit number, or 2 two-digit numbers within 100 without composing a ten. For example, $32 + 25$. Students consider adding tens and tens and ones and ones ($30 + 20 = 50$, $2 + 5 = 7$, and $50 + 7 = 57$) and adding on tens and ones ($32 + 20 = 52$, $52 + 5 = 57$).

Section B: Add One-Digit and Two-Digit Numbers with Making a Ten

In this section, students are introduced to the idea that sometimes when adding numbers within 100, a new ten must be composed. Students add one-digit numbers and two-digit numbers like $68 + 6$. Students may compose a new ten as they count on ($68 + 2 + 4 = 74$), seen in the first image, or they may combine the ones and then add the tens ($8 + 6 = 14$, $14 + 60 = 74$), seen in the second image. Students represent their thinking with drawings, expressions, or equations.





Section C: Add within 100, Making a Ten

In this section, students apply what they learned to add any numbers within 100. Students see that no matter which order they use to combine parts of each of the addends, the sum remains the same.

Try it at home!

Near the end of the unit ask your student to do the following problem:

$19 + 39$

Questions that may be helpful as they work:

- Do you need to make a new ten?
- How did you make a new ten?
- Can you solve the problem in a different way?

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Unit Assessments

Check Your Readiness A, B and C
End-of-Unit Assessment

Grade 1, Unit 5 Section A Checkpoint	• Add within 100 without composing a ten.				• Use equations to represent addition methods.
	Add within 100 by counting on by tens and ones.	Add within 100 by combining tens and tens and ones and ones.	Explain their addition method orally in a way others will understand.	Represent their addition method on paper in a way others will understand.	Write equations to represent addition methods.

Grade 1, Unit 5 Section B Checkpoint	• Add a one-digit and a two-digit number within 100 that require composing a ten.					• Use equations to represent addition methods.
	Add within 100 by counting on.	Make a ten to add within 100.	Add within 100 by combining ones and ones.	Explain their addition method orally in a way others will understand.	Represent their addition method on paper in a way others will understand.	Write equations to represent addition methods.

Grade 1, Unit 5 Section C Checkpoint	• Add 2 two-digit numbers within 100, that require composing a ten.				• Use equations to represent addition methods.
	Add within 100 by counting on tens and ones.	Add within 100 by combining tens and tens and ones and ones.	Explain their addition method orally in a way others will understand.	Represent their addition method on paper in a way others will understand.	Write equations to represent addition methods.

Adding Within 100: End-of-Unit Assessment

1. Find the value of each sum.

   a. $46 + 10$

   b. $46 + 20$

   c. $46 + 50$

2. Circle **3** expressions with the same value as $26 + 17$.

   A. $26 + 10 + 7$

   B. $20 + 10 + 6$

   C. $26 + 4 + 3 + 10$

   D. $17 + 3 + 20$

   E. $20 + 10 + 6 + 7$

3. Find the value of each sum.
   Show your thinking using drawings, numbers, or words.

   a. $74 + 5$

   b. $45 + 9$

   c. $23 + 48$

4. To find $13 + 46$, Jada adds the ones. $3 + 6 = 9$

   Then she adds the tens. $1 + 4 = 5$

   Then she adds the ones and tens. $9 + 5 = 14$

   Do you agree with Jada?
   Show your thinking using drawings, numbers, or words.

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Assessment Answer Keys

Check Your Readiness A, B and C
End-of-Unit Assessment

Assessment Answer Keys
Assessment: Section A Checkpoint

Teacher Instructions

For this Checkpoint Assessment, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Add within 100 without composing a ten.
    - Add within 100 by counting on by tens and ones.
    - Add within 100 by combining tens and tens and ones and ones.
    - Explain their addition method orally in a way others will understand.
    - Represent their addition method on paper in a way others will understand.
- Use equations to represent addition methods.
    - Write equations to represent addition methods.

Assessment: Section B Checkpoint

Teacher Instructions

For this Checkpoint Assessment, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Add a one-digit and a two-digit number within 100 that require composing a ten.
    - Add within 100 by counting on.
    - Make a ten to add within 100.
    - Add within 100 by combining ones and ones.
    - Explain their addition method orally in a way others will understand.
    - Represent their addition method on paper in a way others will understand.
- Use equations to represent addition methods.
    - Write equations to represent addition methods.

Assessment: Section C Checkpoint

Teacher Instructions

For this Checkpoint Assessment, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Add 2 two-digit numbers within 100, that require composing a ten.
    - Add within 100 by counting on tens and ones.
    - Add within 100 by combining tens and tens and ones and ones.
    - Explain their addition method orally in a way others will understand.
    - Represent their addition method on paper in a way others will understand.
- Use equations to represent addition methods.
    - Write equations to represent addition methods.

Assessment: End-of-Unit Assessment

Teacher Instructions

Give students access to connecting cubes in towers of 10 and singles.

Problem 1

Standards Alignments

Addressing 1.NBT.C.4, 1.NBT.C.5

Narrative

Students add different multiples of 10 to a given number. No reasoning is requested and the expectation is that students will do these problems mentally by counting or calculating the number of tens in each sum. The first addend is the same in each expression to facilitate identifying the pattern of the changing digit in the tens place.

Find the value of each sum.

a. $46 + 10$
b. $46 + 20$
c. $46 + 50$

Solution

a. 56
b. 66
c. 96

Problem 2

Standards Alignments

Addressing 1.NBT.C.4

Narrative

Students select expressions that are equivalent to a given expression. While they can find the value of each expression, the given expressions are chosen to represent a method that students have seen and used to add two-digit numbers. For example, $26 + 10 + 7$ shows the method of adding

on the tens and then the ones. The expression $26 + 4 + 3 + 10$ shows making a ten using some of the ones of 17 then adding the rest of those ones and the 10. The response $20 + 10 + 6 + 7$ is the method of adding tens first and then ones. Students who select $20 + 10 + 6$ or $17 + 3 + 20$ have probably not seen that each of these expressions leaves off part of one of the addends.

Circle **3** expressions with the same value as $26 + 17$.

A. $26 + 10 + 7$

B. $20 + 10 + 6$

C. $26 + 4 + 3 + 10$

D. $17 + 3 + 20$

E. $20 + 10 + 6 + 7$

Solution

["A", "C", "E"]

Problem 3

Standards Alignments

Addressing 1.NBT.C.4

Narrative

Students find sums of numbers using any method they choose. They may use drawings, words, or equations to show their thinking. The problems grow in complexity so the first can be done by counting on or adding the ones, while the second can also be done by counting on or composing a new ten. The last problem will most likely be done by thinking about place value and combining the tens and ones of the numbers in some order.

Find the value of each sum.
Show your thinking using drawings, numbers, or words.

a. $74 + 5$

b. $45 + 9$

c. $23 + 48$

Solution

a. 79. Sample response: I noticed that 74 is 7 tens and 4 ones and then combined 4 ones with 5 ones to make 9.
b. 54. Sample response: I made a ten, $45 + 5 = 50$ and then there were 4 more ones left so that's 54.
c. 71. Sample response: First I added 20 and 40 to get 60 then I made another 10 out of 3 and 7 to give me 70. I had one more so that's 71.

Problem 4

Standards Alignments

Addressing 1.NBT.C.4

Narrative

Students analyze incorrect reasoning presented with equations. The mistake here is that the student adds the digits in the tens place and does not give them the correct value. Instead of adding 10 and 40, they add 1 and 4. They get the total 5, which is the number of tens, but they did not give it the value of 50. Students do not need to provide the correct answer but this may come to them naturally as they look at the incorrect work.

To find $13 + 46$, Jada adds the ones. $3 + 6 = 9$
Then she adds the tens. $1 + 4 = 5$
Then she adds the ones and tens. $9 + 5 = 14$

Do you agree with Jada?
Show your thinking using drawings, numbers, or words.

Solution

No. Sample response: When she added the tens she only got 5. That should have been 5 tens or 50.

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Lesson Cool Downs

Lesson 1: Add Tens or Ones

Cool Down: Add a One-Digit and a Two-digit Number

Find the number that makes each equation true.
Show your thinking using drawings, numbers, or words.

1. $5 + 52 = \square$

2. $50 + 29 = \square$

Lesson 3: Add It, Explain It

Cool Down: Find the Value of $14 + 53$

Find the value of $14 + 53$.
Show your thinking using drawings, numbers, or words.
Write equations to show how you found the value.

Lesson 7: Does it Make a New Ten?

Cool Down: Keep On Adding

Find the value of $8 + 57$.
Write equations to show how you found the value.

Lesson 9: Add 2 Two-digit Numbers

Cool Down: Find the Value

Find the value of $18 + 55$.
Show your thinking using drawings, numbers, or words.

Lesson 11: How Did You Do That?

Cool Down: Which Method Do You Like?

Circle the way you prefer to find the value of $37 + 25$.
You may write in a different method if you would like.

Method 1

$30 + 20 = 50$
$7 + 5 = 12$
$50 + 12 = 62$

Method 2

$37 + 3 + 2 = 42$
$42 + 20 = 62$

Method 3

$25 + 30 = 55$
$55 + 5 + 2 = 62$

My Own Way
(Write it in!)

Why do you like this method?

Lesson 12: Add it Up

Cool Down: Add Within 100

Find the value of each sum.

1. $37 + 44$

Write equations to represent your thinking.

2. $58 + 37$

Write equations to represent your thinking.

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Instructional Masters

Instructional Masters for Adding Within 100

address	title	students per copy	written on?	requires cutting?	card stock recommended?	color paper recommended?
Activity Grade1.5.8.1	Target Numbers Stage 2 Recording Sheet	1	yes	no	no	no
Center	Target Numbers Stage 2 Recording Sheet	1	yes	no	no	no
Assessment Grade1.5	Checkpoint	0	yes	no	no	no
Activity Grade1.5.5.2	Add Em' Up Cards (2-digit and 1-digit numbers to 100)	2	no	yes	no	no
Assessment Grade1.5	Checkpoint	0	yes	no	no	no
Assessment Grade1.5	Checkpoint	0	yes	no	no	no
Activity Grade1.5.10.3	Number Puzzles Addition Stage 4 Gameboard	2	no	no	no	no
Center	Number Puzzles Addition Stage 4 Gameboard	2	no	no	no	no
Activity Grade1.5.4.1	Number Puzzles Addition and Subtraction Stage 3 Gameboard	2	no	no	no	no
Center	Number Puzzles Addition and Subtraction Stage 3 Gameboard	2	no	no	no	no
Activity Grade1.5.13.1	Target Numbers Stage 3 Recording Sheet	1	yes	no	no	no
Center	Target Numbers Stage 3 Recording Sheet	1	yes	no	no	no
Activity Grade1.5.6.3	Target Numbers Stage 1 Recording Sheet	1	yes	no	no	no

Center	Target Numbers Stage 1 Recording Sheet	1	yes	no	no	no
Activity Grade1.5.13.2	Five in a Row Addition and Subtraction Stage 6 Gameboard	2	no	no	no	no
Center	Five in a Row Addition and Subtraction Stage 6 Gameboard	2	no	no	no	no
Activity Grade1.5.2.3	Five in a Row Addition and Subtraction Stage 5 Gameboard	2	no	no	no	no
Center	Five in a Row Addition and Subtraction Stage 5 Gameboard	2	no	no	no	no
Center	Number Puzzles Digit Cards	2	no	yes	no	no
Center	Number Puzzles Digit Cards	2	no	yes	no	no
Center	Number Puzzles Digit Cards	2	no	yes	no	no
Center	Number Puzzles Digit Cards	2	no	yes	no	no
Center	Number Puzzles Addition and Subtraction Stage 1 Gameboard	2	no	no	no	no
Center	Number Puzzles Addition and Subtraction Stage 2 Gameboard	1	no	no	no	no
Center	Five in a Row Addition and Subtraction Stages 1 and 2 Gameboard	2	no	no	no	no
Center	Five in a Row Addition and Subtraction Stages 1 and 2 Gameboard	2	no	no	no	no
Center	Five in a Row Addition and Subtraction Stage 3 Gameboard	2	no	no	no	no
Center	Five in a Row Addition and Subtraction Stage 4 Gameboard	2	no	no	no	no
Center	Number Cards, Multiples of 10 (0-90)	2	no	yes	no	no

Center	Greatest of Them All Stage 1 Recording Sheet	1	yes	no	no	no
Center	Mystery Number Stage 1 Directions	2	no	no	no	no
Center	Grab and Count Stage 2 Recording Sheet	1	yes	no	no	no
Center	Get Your Numbers in Order Stage 1 Gameboard	2	yes	no	no	no

Target Numbers Stage 2 Recording Sheet

Directions:

- On your turn:
  - Start at 25. Roll the number cube. Choose whether to add that number of tens or ones to your starting number.
  - Write an equation to represent the sum.
- Take turns until you've played 6 rounds.
- Each round, the sum from the previous equations becomes the starting number in the new equation.
- The partner to get a sum closest to 95 without going over wins.

roll	choose	equation
	tens or **ones**	25 + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____

Target Numbers Stage 2 Recording Sheet

Directions:

- On your turn:
  - Start at 25. Roll the number cube. Choose whether to add that number of tens or ones to your starting number.
  - Write an equation to represent the sum.
- Take turns until you've played 6 rounds.
- Each round, the sum from the previous equations becomes the starting number in the new equation.
- The partner to get a sum closest to 95 without going over wins.

roll	choose	equation
	tens or **ones**	25 + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____
	tens or **ones**	_____ + _____ = _____

Grade 1, Unit 5 Section A Checkpoint	• Add within 100 without composing a ten.				• Use equations to represent addition methods.
	Add within 100 by counting on by tens and ones.	Add within 100 by combining tens and tens and ones and ones.	Explain their addition method orally in a way others will understand.	Represent their addition method on paper in a way others will understand.	Write equations to represent addition methods.

Add Em’ Up Cards (2-digit and 1-digit numbers to 100)

Add Em' Up Cards 29	Add Em' Up Cards 48	Add Em' Up Cards 67	Add Em' Up Cards 84
Add Em' Up Cards 75	Add Em' Up Cards 31	Add Em' Up Cards 53	Add Em' Up Cards 42

Add Em’ Up Cards (2-digit and 1-digit numbers to 100)

Add Em' Up Cards 24	Add Em' Up Cards 36	Add Em' Up Cards 55	Add Em' Up Cards 62
Add Em' Up Cards 71	Add Em' Up Cards 83	Add Em' Up Cards 49	Add Em' Up Cards 68

Add Em’ Up Cards (2-digit and 1-digit numbers to 100)

Add Em' Up Cards 1	Add Em' Up Cards 2	Add Em' Up Cards 3	Add Em' Up Cards 4
Add Em' Up Cards 5	Add Em' Up Cards 6	Add Em' Up Cards 7	Add Em' Up Cards 8

Add Em’ Up Cards (2-digit and 1-digit numbers to 100)

Add Em' Up Cards 9	Add Em' Up Cards 3	Add Em' Up Cards 4	Add Em' Up Cards 5
Add Em' Up Cards 6	Add Em' Up Cards 7	Add Em' Up Cards 8	Add Em' Up Cards 9

Checkpoint

Grade 1, Unit 5 Section B Checkpoint	• Add a one-digit and a two-digit number within 100 that require composing a ten.					• Use equations to represent addition methods.
	Add within 100 by counting on.	Make a ten to add within 100.	Add within 100 by combining ones and ones.	Explain their addition method orally in a way others will understand.	Represent their addition method on paper in a way others will understand.	Write equations to represent addition methods.

Grade 1, Unit 5 Section C Checkpoint	• Add 2 two-digit numbers within 100, that require composing a ten.				• Use equations to represent addition methods.
	Add within 100 by counting on tens and ones.	Add within 100 by combining tens and tens and ones and ones.	Explain their addition method orally in a way others will understand.	Represent their addition method on paper in a way others will understand.	Write equations to represent addition methods.

Puzzle 1

Make each equation true. Use number cards 0–9.

63 = 5□ + 8	63 = 5□ + □
63 = 1□ + 52	63 = 3□ + □9
63 = □□ + 24	63 = 3□ + 25

Puzzle 2

Make each equation true. Use number cards 0–9.

80 = 3□ + 41	80 = □3 + 7
80 = 27 + □□	80 = 1□ + 6□
80 = □□ + 16	80 = 5□ + 29

Puzzle 3

Make each equation true. Use number cards 0–9.

27 = 1 ☐ + 14	27 = 1 ☐ + 1 ☐
27 = 9 + ☐ ☐	27 = 2 ☐ + 3
2 ☐ = 1 ☐ + 11	27 = 1 ☐ + 8

Puzzle 4

Make each equation true. Use number cards 0–9.

92 = ☐☐ + 6	92 = ☐ + 83
92 = 7☐ + 1☐	92 = 9☐ + ☐
92 = 39 + 5☐	92 = 78 + ☐☐

Puzzle 5

Make each equation true. Use number cards 0–9.

46 = ☐☐ + 23	46 = 1☐ + 31
46 = 4☐ + 5	46 = 3☐ + 7
46 = 3☐ + 10	46 = 3☐ + 8

Puzzle 1

Make each equation true. Use number cards 0–9.

63 = 5□ + 8	63 = 5□ + □
63 = 1□ + 52	63 = 3□ + □9
63 = □□ + 24	63 = 3□ + 25

Puzzle 2

Make each equation true. Use number cards 0–9.

80 = 3□ + 41	80 = □3 + 7
80 = 27 + □□	80 = 1□ + 6□
80 = □□ + 16	80 = 5□ + 29

Puzzle 3

Make each equation true. Use number cards 0–9.

27 = 1 ☐ + 14	27 = 1 ☐ + 1 ☐
27 = 9 + ☐ ☐	27 = 2 ☐ + 3
2 ☐ = 1 ☐ + 11	27 = 1 ☐ + 8

Puzzle 4

Make each equation true. Use number cards 0–9.

92 = ☐☐ + 6	92 = ☐ + 83
92 = 7☐ + 1☐	92 = 9☐ + ☐
92 = 39 + 5☐	92 = 78 + ☐☐

Puzzle 5

Make each equation true. Use number cards 0–9.

46 = ☐☐ + 23	46 = 1☐ + 31
46 = 4☐ + 5	46 = 3☐ + 7
46 = 3☐ + 10	46 = 3☐ + 8

Puzzle 1

Directions: Make each equation true. Use number cards 0–5.

75 = 71 + ☐	75 = ☐ + 70
75 = ☐☐ + 65	75 = 43 + ☐☐

Puzzle 2

Directions: Make each equation true. Use number cards 0–5.

98 = 47 + ☐☐	98 = 1☐ + 88
98 = ☐ + 95	98 = ☐☐ + 56

Puzzle 3

Directions: Make each equation true. Use number cards 0–5.

46 = ☐ 0 + 16	46 = ☐☐ + 26
46 = ☐ + 42	46 = 31 + ☐☐

Puzzle 4

Directions: Make each equation true. Use number cards 0–9.

98 = 97 + ☐	98 = 9☐ + 2
98 = ☐0 + 8	98 = 58 + ☐0
98 = ☐0 + 68	98 = 78 + ☐☐
98 = 22 + ☐6	98 = ☐☐ + 13

Puzzle 5

Directions: Make each equation true. Use number cards 0–9.

59 = ☐0 + 9	59 = 55 + ☐
59 = ☐ + 52	59 = 47 + 1☐
59 = 1☐ + 41	59 = 33 + 2☐
59 = ☐☐ + 29	59 = 40 + ☐☐

Puzzle 1

Directions: Make each equation true. Use number cards 0–5.

75 = 71 + ☐	75 = ☐ + 70
75 = ☐☐ + 65	75 = 43 + ☐☐

Puzzle 2

Directions: Make each equation true. Use number cards 0–5.

98 = 47 + ☐☐	98 = 1☐ + 88
98 = ☐ + 95	98 = ☐☐ + 56

Puzzle 3

Directions: Make each equation true. Use number cards 0–5.

46 = ☐ 0 + 16	46 = ☐☐ + 26
46 = ☐ + 42	46 = 31 + ☐☐

Puzzle 4

Directions: Make each equation true. Use number cards 0–9.

98 = 97 + ☐	98 = 9☐ + 2
98 = ☐0 + 8	98 = 58 + ☐0
98 = ☐0 + 68	98 = 78 + ☐☐
98 = 22 + ☐6	98 = ☐☐ + 13

Puzzle 5

Directions: Make each equation true. Use number cards 0–9.

59 = ☐0 + 9	59 = 55 + ☐
59 = ☐ + 52	59 = 47 + 1☐
59 = 1☐ + 41	59 = 33 + 2☐
59 = ☐☐ + 29	59 = 40 + ☐☐

Target Numbers Stage 3 Recording Sheet

Directions:

- On your turn:
  - Roll 2 cubes to get your starting number
  - Roll 3 cubes. Choose one number to represent the tens and one number to represent the ones you will add.
  - Write an equation to represent the sum.
- Take turns until you've played 6 rounds.
- Each round, the sum from the previous equation is the starting number in the new equation.
- The partner who gets a sum closest to 95 without going over wins.

roll and choose	equation
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____

Target Numbers Stage 3 Recording Sheet

Directions:

- On your turn:
  - Roll 2 cubes to get your starting number
  - Roll 3 cubes. Choose one number to represent the tens and one number to represent the ones you will add.
  - Write an equation to represent the sum.
- Take turns until you've played 6 rounds.
- Each round, the sum from the previous equation is the starting number in the new equation.
- The partner who gets a sum closest to 95 without going over wins.

roll and choose	equation
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____
_____ **tens** _____ **ones**	____ + ____ = ____

Target Numbers Stage 1 Recording Sheet

Directions:

- On your turn:
  - Start at 55. Roll the number cube.
  - Add that number to your starting number and write an equation to represent the sum.
- Take turns until you've played 6 rounds.
- Each round, the sum from the previous equations is the starting number in the new equation.
- The partner to get a sum closest to 95 without going over wins.

roll	equation
	55 + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____

Target Numbers Stage 1 Recording Sheet

Directions:

- On your turn:
  - Start at 55. Roll the number cube.
  - Add that number to your starting number and write an equation to represent the sum.
- Take turns until you've played 6 rounds.
- Each round, the sum from the previous equations is the starting number in the new equation.
- The partner to get a sum closest to 95 without going over wins.

roll	equation
	55 + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____
	_____ + _____ = _____

Five in a Row Addition and Subtraction Stage 6 Gameboard

Directions: (two-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

81	91	54	46	90
84	83	35	82	53
60	92	99	73	51
73	42	44	53	92
100	75	82	61	64

16	27	25	34	35
65	19	57	26	48

Five in a Row Addition and Subtraction Stage 6 Gameboard

Directions: (one-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

75	64	24	26	63
65	25	22	31	55
58	30	67	32	66
72	56	54	34	71
74	23	33	73	57

5	6	7	8	9

17	25	49	58	66

Five in a Row Addition and Subtraction Stage 6 Gameboard

Directions: (two-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

81	91	54	46	90
84	83	35	82	53
60	92	99	73	51
73	42	44	53	92
100	75	82	61	64

16	27	25	34	35
65	19	57	26	48

Five in a Row Addition and Subtraction Stage 6 Gameboard

Directions: (one-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

75	64	24	26	63
65	25	22	31	55
58	30	67	32	66
72	56	54	34	71
74	23	33	73	57

5	6	7	8	9

17	25	49	58	66

Five in a Row Addition and Subtraction Stage 5 Gameboard

Directions: (two-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

55	68	38	96	44
74	63	25	36	87
85	47	29	77	74
85	76	82	74	66
93	55	36	47	58

12	23	25	31	34

62	13	51	24	43

Five in a Row Addition and Subtraction Stage 5 Gameboard

Directions: (one-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

45	27	67	15	24
56	18	46	44	63
17	28	55	43	19
66	54	42	57	25
26	65	58	16	64

1	2	3	4	5

14	23	41	53	62

Five in a Row Addition and Subtraction Stage 5 Gameboard

Directions: (two-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

55	68	38	96	44
74	63	25	36	87
85	47	29	77	74
85	76	82	74	66
93	55	36	47	58

12	23	25	31	34

62	13	51	24	43

Five in a Row Addition and Subtraction Stage 5 Gameboard

Directions: (one-digit plus two-digit)

- Partner A: Put a paper clip on 2 numbers in the grey rows. Cover the sum of the 2 numbers with a counter.
- Partner B: Move 1 of the paper clips, add the numbers, and cover the sum with a counter.
- Take turns. The first partner to cover 5 squares in a row wins.

45	27	67	15	24
56	18	46	44	63
17	28	55	43	19
66	54	42	57	25
26	65	58	16	64

1	2	3	4	5

14	23	41	53	62

Number Puzzles Digit Cards

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

Number Puzzles Digit Cards

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

Number Puzzles Digit Cards

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

Number Puzzles Digit Cards

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

Puzzle 1

Make each equation true. Use number cards 0–9.

6= □ + □	6= □ + □
6= □ - □	6= □ - 2
6= □ - □	6= □ - 1

Puzzle 2

Make each equation true. Use number cards 0–9.

7= ☐ + ☐	7= ☐ + ☐
7= ☐ - ☐	7= ☐ - 2
7= ☐ + ☐	7= ☐ - 1

Puzzle 3

Make each equation true. Use number cards 0–9.

8= ☐ + ☐	8= ☐ + ☐
8= ☐ - 0	8= ☐ - 1
8= ☐ + ☐	Leftovers: ☐ ☐

Puzzle 4

Make each equation true. Use number cards 0–9.

9= ☐ + ☐	9= ☐ + ☐
9= ☐ + ☐	9= ☐ + ☐
9= ☐ + ☐	Leftovers: ☐ ☐

Puzzle 5

Make each equation true. Use number cards 0–9.

10= ☐ + 5	10= ☐ + ☐
10= 8 + ☐	10= ☐ + ☐
10= ☐ + 2	Leftovers: ☐ ☐

Puzzle 1

Make each equation true. Use number cards 0–9.

11 = ☐ + ☐	11 = 1☐ - ☐
11 = 1☐ + ☐	11 = 1☐ - 2
11 = 1☐ - 8	11 = 1☐ - 1

Puzzle 2

Make each equation true. Use number cards 0–9.

14 = 1 ☐ + ☐	14 = ☐ + 7
14 = 8 + ☐	14 = 1 ☐ - 4
14 = 1 ☐ - ☐	14 = 1 ☐ - ☐

Puzzle 3

Make each equation true. Use number cards 0–9.

17 = 1□ + □	17 = 1□ - □
17 = 1□ - □	17 = 1 + 1□
17 = 1□ - 1	17 = 1□ + 2

Puzzle 4

Make each equation true. Use number cards 0–9.

18 = 1☐ + ☐	18 = 1☐ - ☐
18 = 1☐ + ☐	18 = 1☐ + 4
18 = 1☐ + ☐	18 = 1☐ - 1

Puzzle 5

Make each equation true. Use number cards 0–9.

19 = 1□ + □	19 = 1□ + □
19 = 1□ + 3	19 = 1□ + 6
19 = 1□ - □	19 = 1□ + 1

Five in a Row Addition and Subtraction Stages 1 and 2 Gameboard

2	4	9	8	3
5	7	6	10	9
8	3	FREE	5	4
9	2	10	3	7
6	5	8	9	4

Five in a Row Addition and Subtraction Stages 1 and 2 Gameboard

2	4	9	8	3
5	7	6	10	9
8	3	FREE	5	4
9	2	10	3	7
6	5	8	9	4

Five in a Row Addition and Subtraction Stage 3 Gameboard

12	14	12	8	11
15	17	16	10	19
18	13	FREE	15	14
9	17	10	13	7
19	16	11	9	18

Five in a Row Addition and Subtraction Stage 4 Gameboard

20	40	60	80	30
10	70	90	0	50
60	30	FREE	50	40
90	20	0	30	70
60	50	80	10	40

Number Cards, Multiples of 10 (0-90)

Number Cards
Multiples of 10

10

Number Cards
Multiples of 10

20

Number Cards
Multiples of 10

30

Number Cards
Multiples of 10

40

Number Cards
Multiples of 10

50

Number Cards
Multiples of 10

60

Number Cards
Multiples of 10

70

Number Cards
Multiples of 10

80

Number Cards, Multiples of 10 (0-90)

Number Cards
Multiples of 10

90

Number Cards
Multiples of 10

0

Number Cards
Multiples of 10

10

Number Cards
Multiples of 10

20

Number Cards
Multiples of 10

30

Number Cards
Multiples of 10

40

Number Cards
Multiples of 10

50

Number Cards
Multiples of 10

60

Number Cards, Multiples of 10 (0-90)

Number Cards Multiples of 10 70	Number Cards Multiples of 10 80	Number Cards Multiples of 10 90	Number Cards Multiples of 10 0

Greatest of Them All Stage 1 Recording Sheet

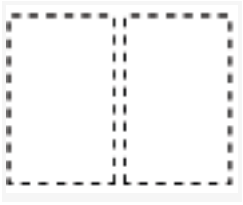
Directions:

- Partner A chooses a number card and writes the number in one of the blanks for Round 1.
- Partner B does the same.
- Repeat until each partner has a two-digit number.
- Write a comparison using <, >, or =.
- The partner with the greater number wins the round.

Round 1:

My Number	My Partner's Number
	
Compare using <, >, or =.	

Round 2:

My Number	My Partner's Number
	
Compare using <, >, or =.	

Greatest of Them All Stage 1 Recording Sheet

Round 3:

My Number	My Partner's Number
	
Compare using <, >, or =.	

Round 4:

My Number	My Partner's Number
	
Compare using <, >, or =.	

Greatest of Them All Stage 1 Recording Sheet

Round 5:

My Number	My Partner's Number
	
Compare using <, >, or =.	

Round 6:

My Number	My Partner's Number
	
Compare using <, >, or =.	

Mystery Number Stage 1 Directions

Directions:

- Partner A:
  - Pick 2 cards and make a mystery two-digit number. Don't show your partner!
  - Give your partner a clue about your mystery number. You can use the sentences below to help you give clues, or make up your own.
- Partner B:
  - Guess your partner's mystery number.
- If Partner B guesses the mystery number, switch roles.
- If Partner B does not guess the mystery number, Partner A gives another clue. Go back and forth guessing the number and giving clues until Partner B guesses the mystery number.

Example clues:

- The mystery number has more than _____ tens.
- The mystery number has less than _____ ones.
- The mystery number is greater than _____.
- The mystery number is less than _____.
- The mystery number has more tens than ones.
- The mystery number has more ones than tens.

Grab and Count Stage 2 Recording Sheet

Directions:

- Each partner grabs a handful of cubes and puts them together.
- Make an estimate of how many cubes without counting.
- Count to see how many cubes you have.

My estimate:_____	My count:_____
My estimate:_____	My count:_____
My estimate:_____	My count:_____
My estimate:_____	My count:_____
My estimate:_____	My count:_____

Get Your Numbers in Order Stage 1 Gameboard

Directions:

- On your turn:
  - Pick 2 number cards and make a two-digit number.
  - Write your number on any spot on the board. The numbers need to go from least to greatest.
  - You may not move a number once it is on the board. If your number cannot be placed on the game board you must say “pass” and you get a point.
- Take turns with your partner until all the numbers on the board are filled. The partner with the fewest points at the end of the game wins.

Least **Greatest**

Points

Partner A	Partner B

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