Unit 2, Lesson 9

Sumemos y restemos hasta 100

Standards

Addressing	**2.NBT.B.5**
Building Toward	**2.NBT.B.5**

Goals

- Match (orally) addition and subtraction expressions and base-ten diagrams that represent the same value.
- Present (using words and other representations) strategies for adding and subtracting within 100.

Instructional Routines

- Card Sort
- MLR7 Compare and Connect
- Which Three Go Together?

Student Facing Learning Goals

Encontremos la diferencia a nuestra manera.

Lesson Purpose

The purpose of this lesson is for students to add and subtract within 100, including composing and decomposing a ten, using strategies based on place value and the properties of operations.

Narrative

In previous lessons, students explored different methods for addition and subtraction with and without composing or decomposing a ten. Students used base-ten blocks, drawings, and equations to represent their methods.

In this lesson, students choose their preferred methods and representations to add and subtract. Throughout the lesson, students are asked to connect expressions and diagrams, choose their own methods for adding and subtracting, and make sense of others thinking (MP2, MP3, MP6). Listen for the ways students explain their methods to others, and look for ways to help students provide feedback to one another when their representations or explanations are not clear.

Access for Students with Disabilities

- Representation

Access for English Learners

- MLR8

Required Materials

Materials to Gather

- Base-ten blocks: Activity 1, Activity 2

Materials to Copy

- Card Sort Sort and Find the Value Cards (1 copy for every 2 students): Activity 1

Lesson Timeline

Warm-up	10 min

Teacher Reflection Questions

Reflect on whose thinking was heard today. Reflect on whose thinking was not heard but could have enriched the conversations. What prompts or structures might

Activity 1	15 min
Activity 2	20 min
Synthesis Estimate	10 min
Actividad de cierre	5 min

better enable the latter to share their voices and reasoning?

Warm-up

10 min

Cuáles tres van juntos: Decenas y unidades

Standards

Building Toward **2.NBT.B.5**

Instructional Routines

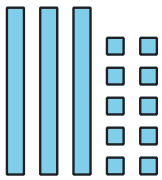
- Which Three Go Together?

This *Warm-up* prompts students to carefully analyze and compare features of base-ten diagrams. In making comparisons, students look for and make use of structure as they describe representations of tens and ones, and as they describe the values shown with the base-ten diagrams (MP7). This *Warm-up* gives the teacher an opportunity to hear how students use terminology and talk about characteristics of base-ten diagrams, including equivalent representations (MP6). This will be important as students compose and decompose two-digit numbers as they add and subtract within 100.

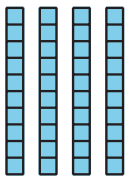
Student Task Statement

¿Cuáles 3 van juntos?

A

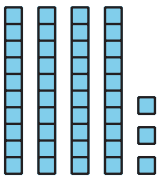


B



C

D



Student Response

Sample responses:

A, B, and C go together because:

- They represent 40.

A, B, and D go together because:

- They show towers of 10 (tens).

Launch

- Display the image.
- *"Escojan 3 que vayan juntos. Prepárense para compartir por qué van juntos"* // "Pick 3 that go together. Be ready to share why they go together."
- 1 minute: quiet think time

Activity

- *"Discutan con su pareja cómo pensaron"* // "Discuss your thinking with your partner."
- 2–3 minutes: partner discussion
- Share and record responses.

Activity Synthesis

- *"¿Por qué los 4 van juntos?"* // "Why do all 4 go together?" (They are all base-ten diagrams. They all show 40 in different ways. B and D use tens. A uses 3 tens and 10 ones. C uses ones but they are organized in groups of ten.)

A, C, and D go together because:

- They show tens and some individual ones (towers of 10 and single blocks).

B, C, and D go together because:

- They show tens or groups of 10 that have lines that show each one.

Activity 1

15 min

Clasificación de tarjetas: Clasifiquemos y encontremos el valor

Standards

Addressing **2.NBT.B.5**

Instructional Routines

- Card Sort

The purpose of this activity is for students to match expressions to base-ten diagrams. Students then choose 2 of the expressions to find the value of, using any method that makes sense to them. Some of the expressions do not require composing or decomposing a ten. A matching task gives students opportunities to analyze expressions and diagrams closely to look for and make sense of structure (MP7).

Access for English Language Learners

MLR8 Discussion Supports. Students should take turns finding a match and explaining their reasoning to their partner. Display the following sentence frame for all to see: *"Observé _____, entonces emparejé . . ."* // "I noticed _____, so I matched . . . ." Encourage students to challenge each other when they disagree.
Advances: Conversing, Representing

Required Materials

Materials to Gather

- Base-ten blocks: Activity 1

Materials to Copy

- Card Sort Sort and Find the Value Cards (1 copy for every 2 students): Activity 1

Required Preparation

- Create a set of cards from the blackline master for each group of 2–3.

Student Task Statement

Tu profesor te va a dar varias tarjetas que muestran expresiones y diagramas.

1. Empareja cada expresión con un diagrama. Prepárate para explicar tu razonamiento.
2. Escoge una expresión de suma. Encuentra el valor de la suma.

Launch

- Groups of 2–3
- Give each group a set of cards.
- Give each group access to base-ten blocks.

Activity

- *"Estas tarjetas tienen expresiones y diagramas.*

3. Escoge una expresión de resta. Encuentra el valor de la diferencia.

Student Response

1. Matches:
   - Expression A: M
   - Expression B: K
   - Expression C: Q
   - Expression D: P
   - Expression E: R
   - Expression F: J
   - Expression G: O
   - Expression H: L
   - Expression I: N

   Sample response: I know A matches M because I see 6 tens and 5 ones to show starting with 65. One ten is crossed out to make 10 ones because there weren't enough ones to cross out 6 at first. I see 3 more tens crossed out to match 30 and 6 ones crossed out.
2. Answers vary.
3. Answers vary.

Emparejen cada expresión con un diagrama. Con su compañero, expliquen cómo razonaron" // "This set of cards includes expressions and diagrams. Match each expression to a diagram. Work with your partner to explain your reasoning."

- *"Cuando hayan encontrado todas las parejas, escojan 1 expresión de suma y 1 expresión de resta. Encuentren el valor de cada expresión de una forma que tenga sentido para ustedes"* // "After you have found all of the matches, choose 1 addition and 1 subtraction expression. Find the value of each expression in a way that makes sense to you."
- 10 minutes: partner work time
- Monitor for students who choose expressions that do not involve composing or decomposing a ten.

Activity Synthesis

- Invite previously selected students to share how they chose expressions to solve.
- Consider asking:
  - *"¿Qué expresiones escogieron para resolver? ¿Por qué?"* // "Which expressions did you choose to solve? Why?" (I chose $35 + 42$ because it was easy for me. I knew that I could just add the ones and then add the tens.)
  - *"¿Cómo pueden saber si necesitan componer o descomponer una decena?"* // "How could you tell if you would need to compose or decompose a ten?" (I could see that $5 + 2 = 7$, so I knew I wouldn't need to compose a ten.)

Activity 2

20 min

Sumemos o restemos

Standards

Addressing **2.NBT.B.5**

Instructional Routines

- MLR7 Compare and Connect

The purpose of this activity is for students to add and subtract within 100 using the methods that make sense to them. Throughout the activity, students share their methods for adding and subtracting and compare their methods with others (MP3).

This activity uses *MLR7 Compare and Connect*. Advances: representing, conversing

Access for Students with Disabilities

Representation: Internalize Comprehension. Synthesis: Invite students to identify which details were most important to solve the problem. Display this sentence frame: *"La próxima vez que tenga que encontrar el valor de una expresión, voy a prestar atención a . . ."* // "The next time I need to find the value of an expression, I will pay attention to . . . ."
Supports accessibility for: Conceptual Processing, Memory, Language

Required Materials

Materials to Gather

- Base-ten blocks: Activity 2

Student Task Statement

Encuentra el valor de cada expresión. Muestra cómo pensaste. Usa objetos, dibujos, números o palabras.

1. $27 + 47$
2. $55 - 27$
3. $36 + 38$
4. $82 - 39$

Student Response

1. 74. Sample response: $20 + 40 = 60$, $7 + 7 = 14$, $60 + 14 = 74$
2. 28. Sample response: $55 - 20 = 35$, $35 - 5 = 30$, $30 - 2 = 28$
3. 74. Sample response: $36 + 30 = 66$, $66 + 4 + 4 = 74$
4. 43. Sample response: $82 - 30 = 52$, $52 - 2 = 50$, $50 - 7 = 43$

Launch

- Groups of 2–3
- Give each group access to base-ten blocks.

Activity

- *"Encuentren el valor de cada expresión. Muestren cómo pensaron. Usen dibujos, números o palabras"* // "Find the value of each expression. Show your thinking using drawings, numbers, or words."
- *"Si les ayuda, pueden usar bloques en base diez. Asegúrense de escribir cómo pensaron"* // "You can use the base-ten blocks if they help. Make sure you show your thinking on paper."
- 5 minutes: independent work time

MLR7 Compare and Connect

- *"Ahora discutan en su grupo qué métodos usaron para encontrar el valor de las expresiones. ¿En qué se parecen? ¿En qué son diferentes?"* // "Now, talk with your group about how you found the value of the expressions. What is the same? What is different?"
- *"Hagan una presentación visual que muestre lo que pensaron sobre una de las expresiones. Muestren lo que cada miembro del grupo hizo para la misma expresión. Así, los demás podrán buscar cosas que se parezcan o sean diferentes. Incluyan notas, diagramas, dibujos u otros detalles para ayudar a los demás a entender cómo pensaron"* // "Create a visual display that shows your thinking about 1 of the expressions. Show the work of all of the group members for the same expression so others can look for things that are the same or different. You may

want to include notes, diagrams, drawings, or other details to help others understand your thinking."

- 5 minutes: partner discussion

Activity Synthesis

- 5–7 minutes: Gallery Walk
- *"¿En qué se parecen la manera como _____ encontró el valor y la manera como _____ lo encontró?"* // "What was the same about how _____ found the value and _____ found the value?" (In the first problem, _____ and _____ both added the ones and added the tens and then combined the two sums. $7 + 7 = 14$, $20 + 40 = 60$, $14 + 60 = 74$)
- *"¿En qué son diferentes la manera como _____ representó cómo pensó y la manera como _____ lo representó?"* // "What is different about how _____ represented their thinking and _____ represented theirs?" (_____ used a diagram and crossed out the ones and then decomposed a ten. Then _____ crossed out the rest of the ones and the tens. _____ wrote equations to show each step.)

Advancing Student Thinking

If students do not share connections between their methods and other students' methods, consider asking:

- *"¿En qué son diferentes las maneras como están representados los métodos en cada presentación?"* // "How are the methods represented differently in each display?"
- *"¿Cómo encontró cada grupo el mismo valor si usaron métodos tan diferentes?"* // "How did each group find the same value when they used such different methods?"

Lesson Synthesis

"En esta unidad sumaron y restaron hasta 100 usando varios métodos, herramientas y representaciones" // "In this unit, you added and subtracted within 100 using different methods, tools, and representations."

"Digan una cosa nueva que aprendieron sobre la suma o la resta" // "What is something new you've learned about addition or subtraction?"

"Digan una manera nueva de sumar o restar que hayan aprendido de otro compañero" // "What is something new you've learned about ways to add or subtract from another classmate?"

Suggested Centers

- Capture Squares (1–5) , Stage 3: Add within 20 (Addressing)
- Five in a Row: Addition and Subtraction (1–3) , Stage 6: Add within 100, with Composing (Addressing)

- Target Numbers (1–5), Stage 4: Subtract Tens or Ones (Addressing)

Cool-down

5 min

Encuentra el valor a tu manera

Standards

Addressing **2.NBT.B.5**

Student Task Statement

Encuentra el valor de cada expresión. Muestra cómo pensaste. Si te ayuda, usa bloques.

1. $95 - 26$
2. $28 + 56$

Student Response

1. 69. Sample response:

   $95 - 20 = 75$

   $75 - 5 = 70$

   $70 - 1 = 69$

2. 84. Sample response:

   $20 + 50 = 70$

   $8 + 6 = 14$

   $70 + 14 = 84$

Responding to Student Thinking

Students find a value for $95 - 26$ other than 69.

Students find a value for $28 + 56$ other than 84.

Next Day Supports
Launch the *Warm-up* or activities by highlighting important representations from previous lessons.

Section B Summary

Sumamos números de dos dígitos. **Compusimos** 1 decena juntando 10 unidades. También restamos números de dos dígitos. **Descompusimos** 1 decena partiéndola en 10 unidades. Usamos bloques en base diez y diagramas en base diez para mostrar cómo pensamos.

$63 - 18$