



SRA NUMBER WORLDS™

Accelerate Math Success

Teacher Edition

Subtraction Tools and Strategies

Week at a Glance

This week, students continue with **Number Worlds**, Level D, Subtraction, by exploring subtracting on a number line. Students use models on the number lines to write subtraction equations and to determine an unknown number in a subtraction sentence.

Skills Focus

- Model basic subtraction facts on a number line.
- Model subtraction equations that include a series of numbers being subtracted.
- Use the vertical format to solve subtraction problems.

How Students Learn

Encourage students to use what they know about addition facts and forward movement along a number line to help them construct relationships for subtraction facts. Students need opportunities to experiment with numbers and relationships between numbers. Students will eventually tie this relationship to backward movement on a number line and use this relationship to recall basic facts.

English Learners **ELL**

For language support, use the **English Learner Support Guide**, pages 82–83, to preview lesson concepts and teach academic vocabulary.

Math at Home

Give one copy of the Letter to Home, page 22, to each student. Encourage students to share and complete the activity with their caregivers.



Weekly Planner

Lesson	Learning Objectives	
1 pages 320–321	Students can write equations to describe backward progression on a number line.	
2 pages 322–323	Students can use number lines and counting back to solve subtraction problems.	
3 pages 324–325	Students can use a number line and counting back to solve a series of subtraction problems.	
4 pages 326–327	Students can solve subtraction problems with one- and two-digit numbers when displayed in a vertical format.	
5 pages 328–329	Review and Assess Students review skills learned this week and complete the weekly assessment and project.	
Project pages 330–331	Students can use subtraction to determine the correct amount of change a customer should receive.	

Key Standard for the Week

Domain: Number and Operations in Base Ten

Cluster: Use place value understanding and properties of operations to add and subtract.

2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.



Materials		Technology
Program Materials <ul style="list-style-type: none">• Student Workbook, pp. 41–43• Practice, p. 88• Activity Card 4M, Counting Back• Number Lines• Counters• Neighborhood Number Line (1–20)• Number Cards (1–10)	Additional Materials <ul style="list-style-type: none">subtraction flash cards	Teacher Dashboard
Program Materials <ul style="list-style-type: none">• Student Workbook, pp. 44–45• Practice, p. 89• Activity Card 4N, Take It Back• Number Lines• Number 1–6 Cubes• Number Cards (6–20)	Additional Materials <ul style="list-style-type: none">• marker• masking tape• subtraction flash cards• colored pencils (for Variation)	Teacher Dashboard
Program Materials <ul style="list-style-type: none">• Student Workbook, pp. 46–47• Practice, p. 90• Activity Card 4N, Take It Back• Number Lines• Number Cards (6–20)• Number 1–6 Cubes	Additional Materials <ul style="list-style-type: none">• colored pencils• marker• masking tape• note cards	Teacher Dashboard
Program Materials <ul style="list-style-type: none">• Student Workbook, pp. 48–49• Practice, p. 91• Activity Card 3P, Vertical Operations• Double-Digit Number Cards (Subtraction)• Place Value Mat• Neighborhood Number Line• Number 1–6 Cubes		Teacher Dashboard Word Problems 4
Program Materials <ul style="list-style-type: none">• Student Workbook, pp. 50–51• Weekly Test, Assessment, pp. 55–56		Review previous activities.
Program Materials <ul style="list-style-type: none">• Student Workbook, p. 52• Number Lines• Counters		

WEEK 4

Subtraction Tools and Strategies

Find the Math

In this week, students will use a number line to solve subtraction problems. Use the following to begin a guided discussion:

- **How might a weather person use a number line in his or her job?**
Answers may vary. Possible answer: A thermometer looks like a number line. The weather person might use it to tell about the difference between the temperature yesterday and the temperature today.

Have students complete *Student Workbook*, page 41.

Lesson 1

Objective

Students can write equations to describe backward progression on a number line.

Standard



2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Vocabulary

- minuend
- subtrahend

Creating Context

Creating direct experiences for English Learners can greatly enhance their comprehension. Taping a number line on the ground that they can hop or leap along is an excellent way to practice the skills in this lesson.

Materials

Program Materials

- Number Lines, 2 per student
- Counters, 20
- Neighborhood Number Line (1–20)
- Number Cards (1–10)

Additional Materials

subtraction flash cards

Prepare Ahead

Shuffle the Number Cards for each pair of students and place them facedown on the table.

1 WARM UP

Prepare

Place fifteen Counters on a table. Write “15 –” on the board. Explain to students that 15 is the *minuend*, or the number you will subtract from. Ask a student to take a few Counters from the pile and write that number (e.g., 4) in the equation. Tell students that this is the *subtrahend*, or the number being subtracted.

- **How can we figure out how many Counters are left on the table without counting them?**

If students don’t suggest counting back by the number of Counters taken, suggest it as a strategy. Have students name the difference.


4

Subtraction Tools and Strategies

Lesson 1

Find the Math

A weather person uses a number line to solve math problems about temperature.



1. How is a thermometer like a number line?

Answers may vary; possible answer: A thermometer has many numbers set along a single line.

2. The temperature was 8 degrees lower yesterday than it was today. The temperature today was 23 degrees. Explain how you can use a number line to find out yesterday’s temperature.

Answers may vary; possible answer: Start at 23 and count back 8 numbers. The temperature yesterday was 15 degrees.

Week 4 Subtraction Tools and Strategies • Lesson 1 41

Student Workbook, p. 41

2 ENGAGE

Develop: Counting Back

“Today we are going to use questions to help solve subtraction problems.” Follow the instructions on the Activity Card **Counting Back**. As students complete the activity, be sure to use the Questions to Ask.

Alternative Grouping

Individual: Act as the student’s partner and complete the activity as written.

ACTIVITY

4M

Counting Back

Objectives

Students can write equations to describe backward progression on a number line.

Materials

- Counters, 20
- Neighborhood Number Line (1–20)
- Number Cards (1–10)

Alternative Grouping

Individual: Act as the student’s partner and complete the activity.

Introduce the Activity

- Have students take out a sheet of paper.
- Display the Neighborhood Number Line and place Counters on numbers 1–20.
- Display the following questions on the board and tell students they will use these questions to help them solve subtraction problems.
- Where are you now?
- How many steps do you need to take away?
- Where will you be after you do this?

Begin the Activity

- One student will pick a Number Card showing a quantity to subtract. Before removing any Counters, that student will answer the questions. All students will write an equation to describe the operation. Then the class will solve the problem.

Activity Card 4M

Progress Monitoring

If... students have trouble with the subtraction operation,

► **Then...** have them start the game with ten Counters and use Number Cards 1–5.

Practice

Have students complete *Student Workbook*, pages 42–43. Guide students through the Key Idea example and the Try This exercises.

Interactive Differentiation



Consult the *Teacher Dashboard* for grouping suggestions. You can also use performance on the Engage activity to guide students.

Independent Practice

For additional practice, provide each student with a stack of subtraction flash cards, twenty Counters, and two copies of Number Lines.

- Instruct students to model the problem on each card using Counters and a number line. Make sure students look at the minuend to determine the total number of Counters they need.

- Have students write each problem and the answer on a dry-erase board or a blank piece of paper.

Supported Practice

For additional support, use Counters to help students model subtraction. Provide each student with twenty Counters and two Number Lines. Write a subtraction equation (such as $18 - 3 = ?$) on the board.

- ▶ **We want to model this math problem with Counters. How many Counters should we start with?** 18
- Have students count out 18 Counters and place them on their desks.
- ▶ **Because this is a subtraction problem, we know we need to take some away. How many Counters should we take away?** 3
- ▶ **How many Counters do we have left?** 15
- ▶ **We can use a number line to help us answer the same math problem. Because we start with 18 Counters, place a Counter on each number on the number line from 1 to 18.**
- ▶ **We need to take 3 Counters away. Which 3 Counters should we take away to help us find the answer?** Start at 18 and work to the left. Take 3 Counters from the right end.

Point out that when students take away the Counters on the numbers 18, 17, and 16, they can easily see that there are 15 Counters left. Discuss the importance of taking away the three Counters at the right end of the number line rather than any other three Counters.

3 REFLECT

Think Critically

Review students' answers to the Reflect prompt at the bottom of *Student Workbook*, page 43, and then review the Engage activity.

4 ASSESS

Informal Assessment

Use the online or print Student Record, *Assessment*, page 128, to record informal observations.

Counting Back

Did the student

- | | |
|---|--|
| <input type="checkbox"/> make important observations? | <input type="checkbox"/> provide insightful answers? |
| <input type="checkbox"/> extend or generalize learning? | <input type="checkbox"/> pose insightful questions? |

Additional Practice

For additional practice, have students complete *Practice*, page 88.

4 Name _____ Date _____
Subtraction Tools and Strategies: **Lesson 1**

Write and solve an equation for each set of cards.

1. $\boxed{16} - \boxed{5}$ $16 - 5 = 11$	2. $\boxed{8} - \boxed{2}$ $8 - 2 = 6$
3. $\boxed{19} - \boxed{4} - \boxed{5}$	4. $\boxed{13} - \boxed{6} - \boxed{3}$

Practice, p. 88

Lesson 1

Key Idea

When subtracting more than one number, subtract one number at a time.

$$14 - 6 - 3 = ?$$

$$14 - 6 = 8 \quad \text{and} \quad 8 - 3 = 5$$

$$\text{So, } 14 - 6 - 3 = 5$$

Try This

Write and solve an equation for each set of cards. Use the number line if you need help.



1. $\boxed{20} - \boxed{4}$
 $20 - 4 = 16$

2. $\boxed{14} - \boxed{3}$
 $14 - 3 = 11$

3. $\boxed{9} - \boxed{5}$
 $9 - 5 = 4$

4. $\boxed{15} - \boxed{5}$
 $15 - 5 = 10$

Use Counters to help find each difference.

5. $16 - 8 - 4 = \underline{4}$
 $\underline{3}$

6. $14 - 8 - 5 = \underline{1}$
 $\underline{9}$

Practice

Write and solve an equation for each set of cards.

9. $\boxed{14} - \boxed{8} - \boxed{2}$
 $14 - 8 = 6$
 $6 - 2 = 4$
or
 $14 - 8 - 2 = 4$

10. $\boxed{16} - \boxed{4} - \boxed{5}$
 $16 - 4 = 12$
 $12 - 5 = 7$
or
 $16 - 4 - 5 = 7$

Reflect

Solve the problem. Show each step.
 $15 - 3 - 4 - 5 = ?$

$$15 - 3 = 12$$

$$12 - 4 = 8$$

$$8 - 5 = 3$$

Lesson 2

Objective

Students can use number lines and counting back to solve subtraction problems.

Standard



2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Vocabulary

- minuend
- subtrahend

Creating Context

It is important to review correctly completed problems with students. It reinforces the concepts for English Learners. It also helps students learn to correctly express themselves using math vocabulary.

Materials

Program Materials

- Number Lines, 2 per student
- Number 1–6 Cube, 1 per pair
- Number Cards (6–20), 1 set per pair

Additional Materials

- marker (dark-colored)
- masking tape
- subtraction flash cards

Prepare Ahead

- Using a long piece of masking tape and a dark-colored marker, create a large number line (0–20) on the classroom floor. Numbers should be far enough apart that students can stand on a single number, but close enough together that students can easily step from one number to the next.
- For **Take It Back**, remove Number Cards 1–5.

1 WARM UP

Prepare

Draw a 1–20 number line on the board. Write $12 - 4 = ?$ Circle 12 on the number line.

- **We're starting with 12 in this subtraction equation. Then we have to take something away. How much do we have to take away?**

Circle “–4” in the subtraction equation.

- **It says to take 4 away, so I'm going to jump backward 4 spaces. I'm starting at 12, so I jump over 11, 10, and 9, and land on 8. That's four spaces. We landed on 8—the number we have left after we take 4 away from 12. This is the *difference* between 4 and 12.**

Just the Facts

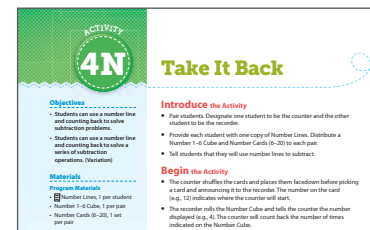
Have students use mental math to solve subtraction problems. Tell them to show you the answer by holding up the appropriate number of fingers. Use questions such as the following:

- **What is $14 - 8$?** Students hold up 6 fingers.
- **What is $16 - 9$?** Students hold up 7 fingers.
- **What is $19 - 9$?** Students hold up 10 fingers.

2 ENGAGE

Develop: Take It Back

“Today we are going to use number lines to subtract.” Follow the instructions on the Activity Card **Take It Back**. As students complete the activity, be sure to use the Questions to Ask.



Activity Card 4N

Alternative Grouping

Individual: Partner with the student and complete the activity as written.

Progress Monitoring

If... students are struggling with using a number line on paper,

► **Then...** use tape to make a number line on the floor.

Practice

Have students complete **Student Workbook**, pages 44–45. Guide students through the Key Idea example and the Try This exercises.

Interactive Differentiation



Consult the **Teacher Dashboard** for grouping suggestions. You can also use performance on the Engage activity to guide students.

Independent Practice

For additional practice, provide students with a stack of subtraction flash cards and a copy of Number Lines. Instruct students to take turns standing on the giant number line on the number that corresponds to the first number on the flash card (the minuend). Students should then look at the second number (the subtrahend) to determine how many steps to the left to take. Once students find the difference, have them record the moves they made on a blank number line, circling the final answer.

Supported Practice

For additional support, use the giant number line to have students experience counting back on a number line.

- Write a subtraction equation (such as $15 - 9 = ?$) on the board.
- **We are going to use our giant number line to help us find the answer to the subtraction problem. Which number should I start on?** 15
- **Because this is a subtraction problem, which way should I move on the number line? How many steps should I take?** to the left; 9 steps
- **What number did I land on?** 6
- Have students record the problem and solution on a blank number line. Instruct them to draw a square around the starting number and then illustrate the steps along the number line. Have students circle their final answer and write the equation under the number line.
- Write a new subtraction problem on the board and choose a student to walk on the number line. Repeat as time permits.

3 REFLECT

Think Critically

Review students' answers to the Reflect prompt at the bottom of **Student Workbook**, page 45, and then review the Engage activity.

Discuss the meaning of each number.

- **Why is the largest number on the number line the beginning of an equation?** Possible answer: You can't subtract larger numbers from smaller numbers.
- **Can any of these numbers be placed in another position and still make a true equation?** The 4 and 10 can be switched.

Real-World Application

Tell a story about a situation that involves subtraction. The main character in the story should try to achieve the greatest difference or the least difference. Include strategies that the character used.

4 ASSESS

Informal Assessment

Use the online or print Student Record, **Assessment**, page 128, to record informal observations.

Take It Back

Did the student

- | | |
|---|--|
| <input type="checkbox"/> make important observations? | <input type="checkbox"/> provide insightful answers? |
| <input type="checkbox"/> extend or generalize learning? | <input type="checkbox"/> pose insightful questions? |

Additional Practice

For additional practice, have students complete **Practice**, page 89.

Name _____ Date _____

Subtraction Tools and Strategies: **Lesson 2**

Write the equation shown on each number line.

1. $9 - 7 = 2$

2. $12 - 5 = 7$

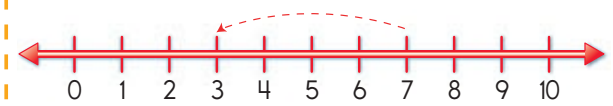
3. $17 - 4 = 13$

Practice, p. 89

Lesson 2

Key Idea

Subtraction is the opposite of addition.



Subtraction problems can be shown on a number line.

$$7 - 4 = 3$$

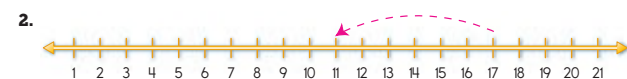
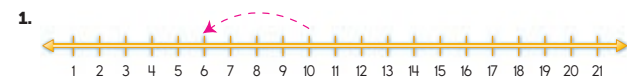
7 is where the jump starts.

4 is the distance of the jump.

3 is where the jump ends.

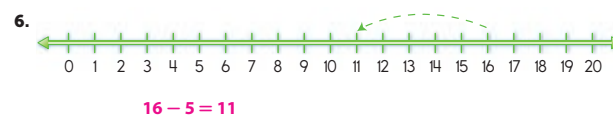
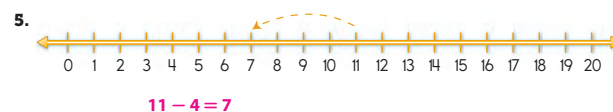
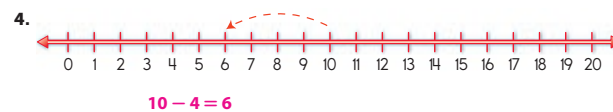
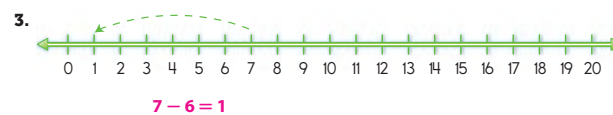
Try This

Show each subtraction problem on the number line. Write each difference.



Practice

Write the equation shown on each number line.



Reflect

Explain how you would use each number in the equation $14 - 10 = 4$ when showing it on a number line. You may draw a number line to help you answer the question.

14 is where the jump starts. 10 is the jump's distance. The jump ends at 4.

Lesson 3

Objective

Students can use a number line and counting back to solve a series of subtraction operations.

Standard



2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Vocabulary

- minuend
- subtrahend

Creating Context

Tell students that in English we can turn some verbs into nouns that describe a person doing an action by adding *-er* to the end of the verb. Give examples, such as *jumper*.

Materials

Program Materials

- Number Lines, 3 copies per student
- Number 1–6 Cube, 1 per pair
- Number Cards (6–20), 1 set per pair

Additional Materials

- colored pencils, 3 per pair
- marker (dark-colored)
- masking tape
- note card, 1 per student

Prepare Ahead

- Write multistep subtraction problems on individual note cards, one per student. Use problems such as $25 - 3 - 6 = ?$ and $31 - 7 - 3 = ?$.
- Create a giant number line on the floor using masking tape and a dark-colored marker. Numbers should be far enough apart that students can stand on an individual number, but close enough together that students can easily step from one number to the next.
- For **Take It Way Back**, remove Number Cards 1–11.

1 WARM UP

Prepare

Draw a number line on the board. Review how to use the number line to solve subtraction problems.

- ▶ **How long is my jump if I start on 9 and finish at 6?** 3
- ▶ **How did you figure that out?** Possible answer: I counted the spaces between 6 and 9. If students answer that they counted the lines for numbers 6–9, discuss which lines and numbers the students counted. Remind them that they do not count the number (or line) they start on, but they should count the number they land on.
- ▶ **How long is my jump if I start on 15 and finish at 8?** 7

Just the Facts

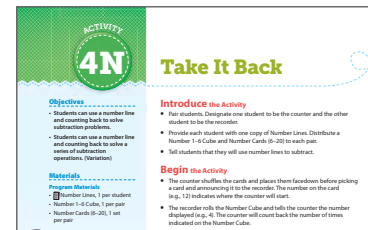
Say a subtraction equation. Instruct students to jump up and down the number of times they would jump to the left on a number line to solve the problem. Use equations such as the following:

- ▶ $15 - 7 = ?$ Students should jump 7 times.
- ▶ $22 - 9 = ?$ Students should jump 9 times.
- ▶ $19 - 3 = ?$ Students should jump 3 times.

2 ENGAGE

Develop: Take It Back (Variation)

“Today we are going to use number lines to subtract more than one number.” Follow the instructions on the Activity Card **Take It Back (Variation)**. As students complete the activity, be sure to use the Questions to Ask.



Activity Card 4N

Alternative Grouping

Individual: Partner with the student and complete the activity as written.

Progress Monitoring

- If...** students are getting confused when making multiple jumps,
- Then...** have the recorder illustrate each jump after rolling the Number 1–6 Cube.

Practice

Have students complete *Student Workbook*, pages 46–47. Guide students through the Key Idea example and the Try This exercises.

Interactive Differentiation



Consult the *Teacher Dashboard* for grouping suggestions. You can also use performance on the Engage activity to guide students.

Independent Practice

For additional practice, provide students with a subtraction problem note card and a copy of Number Lines. Students should take turns walking out the solution to the subtraction problem on the giant number line. Once students find the correct answer, have them illustrate the moves they made on a blank number line. Have students circle their final answer and then write the equation with the answer under the number line.

Supported Practice

For additional support, use the giant number line on the floor to help students model subtraction equations.

- Write a subtraction equation such as $23 - 5 - 4 = ?$ on the board.
- ▶ **We are going to use our giant number line to help us find the answer to the subtraction problem. Which number should I start on?** 23
- ▶ **What steps should I take to find the answer?** Move to the left 5 steps and then 4 more steps.
- ▶ **What number did I land on?** 14
- Have students record the moves you made on a blank number line. Instruct them to draw a square around the starting number and then illustrate the steps you took along the number line. Have students circle the final answer and then write the equation with the answer under the number line.
- Write a new subtraction problem on the board and choose a student to walk on the number line. Repeat as time permits.

3 REFLECT

Think Critically

Review students' answers to the Reflect prompt at the bottom of **Student Workbook**, page 47, and then review the Engage activity.

Discuss the difference between adding and subtracting on a number line.

- **Why do addition equations and subtraction equations move in opposite directions on the number line?**
- **Can we use addition to solve subtraction problems?**

Real-World Application

Discuss with students that addition and subtraction are opposites, meaning you move in opposite directions on a number line.

- **Can you name other opposites?** Possible answers: small and large, tall and short, round and flat, high and low

4 ASSESS

Informal Assessment

Use the online or print Student Record, **Assessment**, page 128, to record informal observations.

Take It Back (Variation)

Did the student

- ☐ provide a clear explanation?
- ☐ choose appropriate strategies?
- ☐ communicate reasons and strategies?
- ☐ argue logically?

Additional Practice

For additional practice, have students complete **Practice**, page 90.

Week 4 Name _____ Date _____
Subtraction Tools and Strategies: **Lesson 3**

Write the equation shown on each number line.

1. $8 - 4 - 1 = 3$

2. $16 - 5 - 4 = 7$

3. $16 - 5 - 4 = 7$

Practice, p. 90

Lesson 3

Key Idea



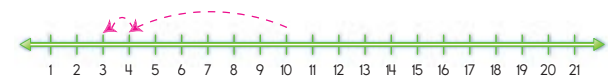
Number lines can be used to show a series of numbers subtracted from one number.

$$10 - 3 - 4 = 3$$

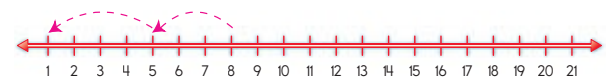
Try This

Show each equation on the number line.
Use a different-colored pencil for each jump.
Write each difference.

1. $10 - 6 - 1 = 3$



2. $8 - 3 - 4 = 1$



Practice

Write each equation shown.



Reflect

Look back at the number-line problems in this lesson.
When subtracting numbers on a number line, in which direction did you move?

Answers may vary; possible answer: I moved left toward 0.

Lesson 4

Objective

Students can solve subtraction problems with one- and two-digit numbers when displayed in a vertical format.

Standard



2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Vocabulary

- minuend
- subtrahend

Creating Context

Modeling new skills helps English Learners learn new concepts. Make sure to pause between each step in your instructions and check for understanding before you continue.

Materials

Program Materials

- Double-Digit Number Cards (Subtraction), 1 set per 6 students
- Place Value Mat, 1 per student
- Neighborhood Number Line
- Number 1–6 Cube, 1 per pair

1 WARM UP

Prepare

Write “ $27 - 4 = \underline{\hspace{1cm}}$ ” on the board as an equation and also in vertical format.

Point to the equation format. Ask students to solve the problem mentally and to describe their thinking aloud. Most students will use the count-back strategy.

Point to the vertical format, and tell students that we use a different strategy when the problem is written this way.

- ▶ **First you subtract the numbers in the ones column and write that number under the bar in the ones column. What is 7 minus 4?** 3
- ▶ **Next you subtract the numbers in the tens column and write that number under the bar in the tens column. What is 2 minus 0?** 2
- ▶ **The number under the bar is the answer.** 23

Write “ $18 - 3$ ” and “ $35 - 2$ ” in both formats on the board. Ask students to solve the problems aloud.

Just the Facts

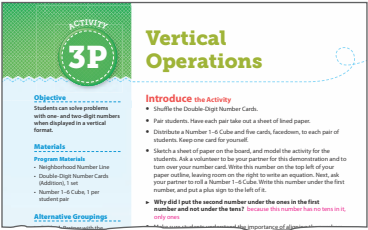
Play a game of “Finger Flash.” Tell students to “flash” the number of fingers that answers the question. Use questions such as the following:

- ▶ **What is $12 - 6$?** Students should show 6 fingers.
- ▶ **What is $9 - 5$?** Students should show 4 fingers.
- ▶ **What is $15 - 8$?** Students should show 7 fingers.

2 ENGAGE

Develop: Vertical Operations (Variation)

“Today we are going to do subtraction in the vertical format.” Follow the instructions on the Activity Card **Vertical Operations (Variation)**. As students complete the activity, be sure to use the Questions to Ask.



Alternative Grouping

Small Group: Complete the activity as written. Make sure all students take a turn recording and creating equations.

Activity Card 3P

Progress Monitoring

- If...** students have trouble correctly lining up the numbers in vertical format problems,
- Then...** give them graph paper, and demonstrate how to use the paper to help keep the places aligned.

Practice

Have students complete *Student Workbook*, pages 48–49. Guide students through the Key Idea example and the Try This exercises.

Interactive Differentiation



Consult the *Teacher Dashboard* for grouping suggestions. You can also use performance on the Engage activity to guide students.

Independent Practice



For additional practice, have students complete Word Problems 4. As students read and work each word problem, have them record the appropriate equation in vertical form.

Supported Practice

For additional support, use the Place Value Mat to help students understand how to solve subtraction equations in vertical format.

- Write a subtraction equation such as $27 - 4 = ?$ on the board.
- ▶ **How many ones are in the number 27?** 7
- ▶ **How many tens?** 2
- ▶ **How many hundreds?** 0
- Have students record the minuend on the Place Value Mat, paying close attention to the digits and their place value.
- ▶ **How many are you going to take away from 27?** 4
- ▶ **How many ones does that number have?** 4
- ▶ **How many tens?** 0
- ▶ **How many hundreds?** 0
- Have students record the subtrahend on the Place Value Mat under the minuend. Guide students to draw a line under both numbers and then subtract to find the difference.
- ▶ **Which place value digits should we always subtract first?** the ones
- Repeat with other subtraction equations. You may want to model the numbers with base-ten blocks for students who need a more tactile experience.

3 REFLECT

Think Critically

Review students' answers to the Reflect prompt at the bottom of **Student Workbook**, page 49, and then review the Engage activity.

Discuss the similarities and differences in vertical format problems and equations.

- Which problems were easier to solve? Why?

Real-World Application

- Suppose that you are in charge of buying supplies for a big birthday party. You buy a package of 56 paper plates. After the party, you have 36 plates. How can you find the number of plates used by the partygoers? **subtract**
- How many plates were used? Write a number sentence. $56 - 36 = 20$

4 ASSESS

Informal Assessment

Use the online or print Student Record, **Assessment**, page 128, to record informal observations.

Vertical Operations (Variation)

Did the student

- ☐ provide a clear explanation?
- ☐ choose appropriate strategies?
- ☐ communicate reasons and strategies?
- ☐ argue logically?

Additional Practice

For additional practice, have students complete **Practice**, page 91.

Name _____ Date _____

Subtraction Tools and Strategies: **Lesson 4**

Find each difference. Then write the whole equation.

1. $63 - 5 = 58$ Equation: $63 - 5 = 58$

2. $39 - 6 = 33$ Equation: $39 - 6 = 33$

3. $27 - 4 = 23$ Equation: $27 - 4 = 23$

4. $88 - 7 = 81$ Equation: $88 - 7 = 81$

Practice, p. 91

Lesson 4

Key Idea

Subtraction equations can be shown two ways.

Horizontally:

$$38 - 4 = 34$$

Count back to find the answer to horizontal equations.

$$37, 36, 35, 34$$

Vertically:

$$\begin{array}{r} 38 \\ - 4 \\ \hline 34 \end{array}$$

Subtract the numbers in the ones column and the tens column to find the answer to vertical equations.

Try This

Find each difference.

$$\begin{array}{r} 97 \\ - 3 \\ \hline 94 \end{array}$$

$$\begin{array}{r} 59 \\ - 7 \\ \hline 52 \end{array}$$

$$\begin{array}{r} 34 \\ - 1 \\ \hline 33 \end{array}$$

$$7. 22 - 3 = 19$$

$$\begin{array}{r} 28 \\ - 5 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 74 \\ - 2 \\ \hline 72 \end{array}$$

$$\begin{array}{r} 67 \\ - 6 \\ \hline 61 \end{array}$$

$$8. 46 - 3 = 43$$

Practice

Find each difference. Then write the equation.

$$\begin{array}{r} 84 \\ - 4 \\ \hline 80 \end{array}$$

Equation: $84 - 4 = 80$

$$\begin{array}{r} 58 \\ - 7 \\ \hline 51 \end{array}$$

Equation: $58 - 7 = 51$

$$\begin{array}{r} 24 \\ - 2 \\ \hline 22 \end{array}$$

Equation: $24 - 2 = 22$

$$\begin{array}{r} 68 \\ - 5 \\ \hline 63 \end{array}$$

Equation: $68 - 5 = 63$


Reflect

How does addition help you with subtraction?

Possible answer: I can use addition to make sure I've subtracted correctly.

Lesson 5 Review

Objective
Students review skills learned this week and complete the weekly assessment and project.

Standard 
2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Vocabulary
Review vocabulary introduced during the week.

Creating Context
If English Learners have learned their basic mathematics strategies outside the United States, they might bring a more advanced mathematics experience, but not know how to express their questions and solutions in English. Be sure to talk through the solution of each math problem so English Learners can also develop their math vocabulary in English.

1

WARM UP

Prepare
Send five students to the board. Each student should create a number line, illustrate an equation similar to one from this week’s lessons, and then select another student to write the equation associated with the illustration. If that student is struggling to write the equation, he or she can select another student to help complete the equation. Those remaining in their seats can verify that each equation is correct.

2

ENGAGE

Practice
Have students complete *Student Workbook*, pages 50–51.

Week 4 • Subtraction Tools and Strategies

Lesson 5 Review
This week you looked at subtraction using a number line. You modeled the subtraction with jumps on a number line. You also worked backward to complete subtraction sentences.

Lesson 1 Write and solve the equation shown by the cards.
1.

20

−

7

−

5

20 − 7 − 5 = 8

Lesson 2 Write each subtraction equation shown.
2.

16 − 5 = 11

3.

13 − 7 = 6

4.

10 − 4 = 6

50 Level D Unit 4 Subtraction

Lesson 3 Write the equation shown.
5.

10 − 2 − 4 = 4

6.

15 − 6 − 4 = 5

Lesson 4 Find each difference. Then write the equation.
7.

48

− 5

43

Equation: 48 − 5 = 43

8.

89

− 7

82

Equation: 89 − 7 = 82

Reflect
Write a subtraction sentence. Show it on the number line.

Sentences and number lines will vary.

Week 4 Subtraction Tools and Strategies • Lesson 5 51

3 REFLECT

Think Critically

Review students' answers to the Reflect prompt at the bottom of **Student Workbook**, page 51.

Discuss the answer with the group to reinforce Week 4 concepts.

4 ASSESS

Formal Assessment

Students may take the weekly assessment online.

As an alternative, students may complete the weekly test on **Assessment**, pages 55–56. Record progress using the Student Assessment Record, **Assessment**, page 128.

Going Forward

Use the **Teacher Dashboard** to view results of the online assessments, to input the results of print student assessments, and to review progress before making decisions about next steps. Use the weekly test results and observations to determine the next steps for each student.

Retention

Student displays good grasp of this week's concepts and skills.

Students should continue to play **Vertical Subtraction**. If students are ready for the extra challenge, add even more subtrahends (more jumps backward).

Remediation

Student is still struggling with the week's concepts and skills.

- Use the Place Value Mat to help students solve vertically formatted subtraction equations.
 - Display a subtraction equation (such as $39 - 12 = ?$) on the board.
 - **How many ones are in the number 39?** 9
 - **How many tens?** 3
 - **How many hundreds?** 0
 - Have students record the minuend on the Place Value Mat.
 - **How many are you going to take away from 39? How many ones does that number have? How many tens? How many hundreds?** 12; 2; 1; 0
 - Have students record the subtrahend on the Place Value Mat under the minuend. Guide students to draw a line under both numbers.

Suggestions for Re-Evaluation: If a student has struggled without success for several weeks, use observations and test results to place the student at a level in which he or she can find success and build confidence to move forward.

Name _____ Date _____

Subtraction Tools and Strategies

WEEK 4

Solve each problem.

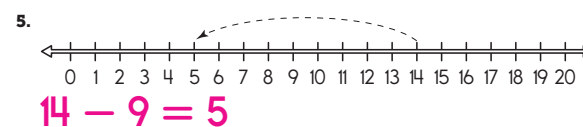
1. $8 - 3 = 5$

2. $19 - 6 = 13$

3. $17 - 3 - 4 = 10$

4. $12 - 7 - 5 = 0$

Write an equation for the problem shown on the number line.

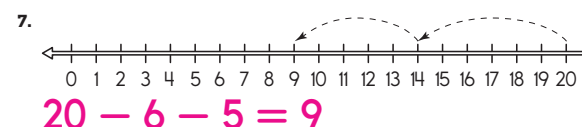
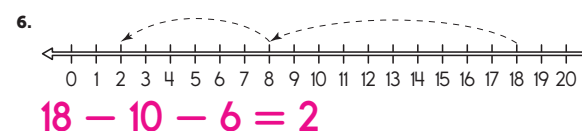


Level D Unit 4 Week 4 55

WEEK 4

Name _____ Date _____

Subtraction Tools and Strategies



Write an equation to match each subtraction problem. Solve the equation.

8. $\begin{array}{r} 28 \\ -7 \\ \hline \end{array}$
 $28 - 7 = 21$

9. $\begin{array}{r} 89 \\ -5 \\ \hline \end{array}$
 $89 - 5 = 84$

10. $\begin{array}{r} 53 \\ -3 \\ \hline \end{array}$
 $53 - 3 = 50$

56 Level D Unit 4 Week 4

Assessment, pp. 55–56

Project Preview

This week, students learned how to use a number line to solve more complicated subtraction equations. The project for this unit requires students to extend the knowledge they gained in Find the Math and what they have learned this week. In today’s project, students will use a number line to find the amount of change a customer should receive.

Project-Based Learning

Standards-driven Project-Based Learning is effective in building deep content understanding. Project-Based Learning increases long-term retention of concepts and has been shown to be more effective than traditional instruction. Completing a project to answer an essential question challenges students to apply and demonstrate mastery of concepts and skills by expressing understanding through discussion, research, and presentation.

Essential Question

WHEN would it be useful to write equations outside the classroom?

Project Evaluation Criteria

Review project evaluation criteria with students prior to beginning the project.

Exceeds Expectations
<div><input type="checkbox"/> Project result is explained and can be extended.</div> <div><input type="checkbox"/> Project result is explained in context and can be applied to other situations.</div> <div><input type="checkbox"/> Project result is explained using advanced mathematical vocabulary.</div> <div><input type="checkbox"/> Project result is described, and mathematics are used correctly and can be extended.</div> <div><input type="checkbox"/> Project result is explained and extended, and shows advanced knowledge of mathematical concepts and skills.</div>
Meets Expectations
<div><input type="checkbox"/> Project result is explained.</div> <div><input type="checkbox"/> Project result is explained in context.</div> <div><input type="checkbox"/> Project result is explained using mathematical vocabulary.</div> <div><input type="checkbox"/> Project result is described, and mathematics are used correctly.</div> <div><input type="checkbox"/> Project result is explained, and shows satisfactory knowledge of mathematical concepts and skills.</div>
Does Not Meet Expectations
<div><input type="checkbox"/> Project result is not explained.</div> <div><input type="checkbox"/> Project result is explained, but out of context.</div> <div><input type="checkbox"/> Project result is explained, but mathematical vocabulary is oversimplified.</div> <div><input type="checkbox"/> Project result is described, but mathematics are not used correctly.</div> <div><input type="checkbox"/> Project result is not explained and/or extended, or shows less than satisfactory knowledge of mathematical concepts and skills.</div>

Subtracting for Change

Objective

Students can use subtraction to determine the correct amount of change a customer should receive.

Standard



2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

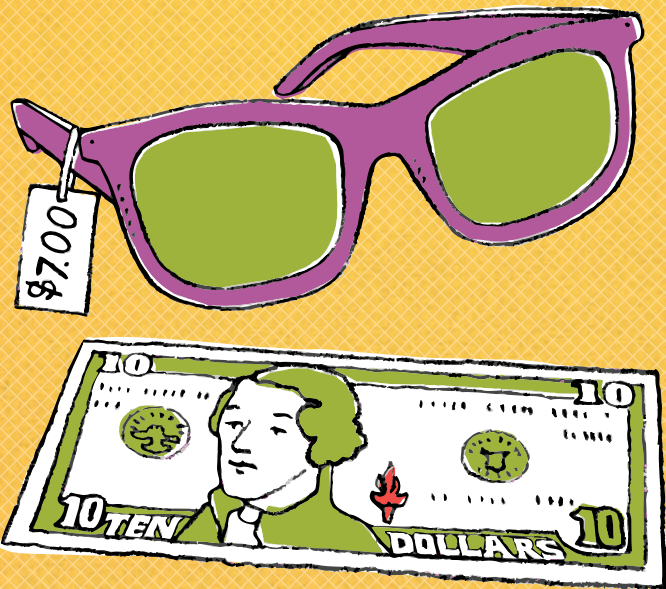
Materials

Program Materials

- Number Lines (4 per student)
- Counters

Best Practices

- Check for student understanding frequently.
- Coach, demonstrate, and model.
- Allow students to self-monitor.



Introduce

When you go into a store to buy a new toy, you might have more money than you need to pay for the toy.

- Explain that paper currency comes in amounts of \$1, \$5, \$10, and \$20 bills.
- ▶ **Let's say that a new toy car costs \$3. You don't have three \$1 bills, but you do have one \$10 bill. Can you still buy the new toy? Why or why not?** Yes; \$10 is more than \$3.
- ▶ **What will happen when you give the cashier your \$10 bill? Will he or she keep it all or give some of it back to you?** give some of it back
- Explain to students the concept of receiving change from a transaction.

Explore

- ▶ **Today you will use subtraction to find the amount of change a customer should receive after he or she pays for an item.**
- ▶ **You can find how much change to give the customer by writing a subtraction problem. You will subtract the price of the item from the amount of money the customer gives you.**
- ▶ **Look at Problem 1 on your workbook page. How much does a sun hat cost?** \$4
- ▶ **What subtraction problem can you write to find out how much change to give?** $10 - 4 = ?$
- Model counting back on a number line to find the solution. Then have students count back on their own number lines. Finally, have students write the equation in vertical format:
$$\begin{array}{r} 10 \\ -4 \\ \hline 6 \end{array}$$
- Guide students to use the same strategies as they continue solving the other subtraction problems.
- ▶ **Complete Student Workbook, page 52, to practice using strategies to solve subtraction problems.**

Wrap Up

- Encourage students to write the equation for each problem.
- Make sure students are using the number line and writing each equation in a vertical format.
- If students struggle to use one or both of the strategies, model how both methods will lead students to the same answer.
- Discuss students' answers to the Reflect prompts at the bottom of **Student Workbook**, page 52.

Have students use the inventory lists from Week 3. Have them add the price of each item. For this activity, encourage students to keep prices under \$30.

If time permits, allow each student to check another student's answers.

Week 4 • Subtraction Tools and Strategies

Project-Based Learning

Project

Subtracting for Change

Look at the chart below to help you answer the questions. Use a number line or Counters to help.

Item	Price
Swim shorts	\$9
Sandals	\$8
Sun hat	\$4
Sunglasses	\$7

1. A customer wants to buy a sun hat. She gives you a \$10 bill. How much change will you give her? \$6
2. A customer wants to buy some sandals. He gives you a \$20 bill. How much change will you give him? \$12
3. A customer wants to buy some swim shorts. He gives you \$15. How much change will you give him? \$6
4. A customer wants to buy some sunglasses and a sun hat. She gives you a \$20 bill. How much change will you give her? \$9

Reflect

Describe two different strategies you can use to solve subtraction problems.

Answers may vary; possible answer: You can count back using a number line or subtract by writing the problem in vertical format.

52 Level D Unit 4 Subtraction

Student Workbook, p. 52

Teacher Reflect

☐ Did I explain what students had to find, make, or do before they began their projects?

☐ Was I able to answer questions when students did not understand?

☐ Were students able to correctly answer the Reflect questions?

LEVEL

D

NUMBER WORLDS™

Accelerate Math Success

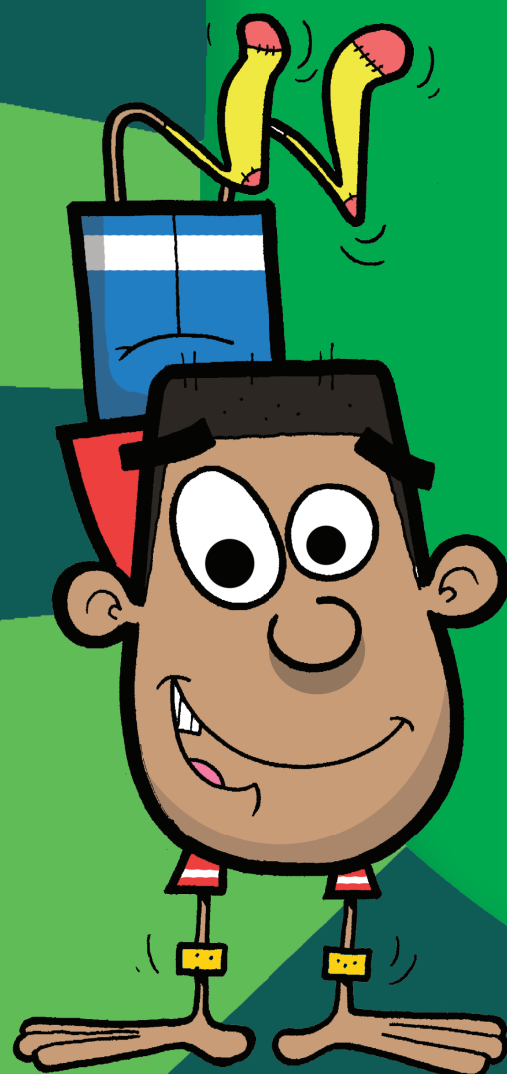
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