

# Tier 3 Intervention Lessons

2.NBT.8

Learning Target: I will mentally add and subtract 10 or 100 to a number

Readiness for 2.NBT.5: Add and subtract 3-digit numbers

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# **Tier 3 Intervention Planning Guide**

Learning Target: I will mentally add and subtract 10 or 100 to a number

**Readiness** for adding and subtracting 3-digit numbers

	Recommended Actions
<b>Beginning</b> (5 min.)	<ul> <li>Review the learning target with the whole group</li> <li>Ask each student to set a goal for the day based on their previous Quick Check Score</li> <li>Have each student use a highlighter to plot their goal for the day</li> </ul>
<b>Middle</b> (15 min.)	<ul> <li>Model solving a word problem – "I do" (Sessions 1, 3 and 6 only)</li> <li>Guided Practice – "We do"</li> <li>Sessions 1 and 2: Add and subtract 10 and 100 to a number using base-ten blocks</li> <li>Sessions 3, 4 and 5: Add and subtract 10 and 100 to a number using base-ten drawings</li> <li>Sessions 6, 7 and 8: Add and subtract 10 and 100 to a number using numbers and symbols</li> </ul>
<b>End</b> (10 min.)	<ul> <li>Bring the students back together.</li> <li>Ask students to reflect on their progress towards the learning target         <ul> <li>What did I learn today about counting?</li> <li>How confident do you feel about counting on my own?</li></ul></li></ul>
After	<ul> <li>Differentiation Options:         <ul> <li>Allow students who met the learning goal to work independently while others do the guided practice during the next session</li> <li>Exit students who met the learning goal for a third time</li> </ul> </li> <li>Problem solve with a team to plan additional support for students who do not meet the learning goal within 8 sessions</li> </ul>



## Session 1: Modeling (I Do)

Learning Target: I will mentally add and subtract 10 or 100 to a number

**Readiness** for adding and subtracting 3-digit numbers

Emily went with her class to pick apples at an orchard for her school's fall harvest party. A total of 358 apples were picked. On the way back to school, the class gave 100 apples to a local food bank. How many apples did the class keep for the school's fall harvest party?



## Session 1: Modeling (I Do - Teacher Notes)

Learning Target: I will mentally add and subtract 10 or 100 to a number

**Readiness** for adding and subtracting 3-digit numbers

Materials: Base-ten blocks (10 hundreds, 10 tens and 10 ones)

Emily went with her class to pick apples at an orchard for her school's fall harvest party. A total of 358 apples were picked. On the way back to school, the class gave 100 apples to a local food bank. How many apples did the class keep for the school's fall harvest party?

I am going to think aloud to model solving this problem.

Your job is to watch, listen, think and ask questions.

First, it is important to know what the problem is about.

This problem is about Emily's class picking apples for their school's fall harvest party.

Second, I need to determine what I need to find.

I need to find the number of apples kept for the school party.

Third, I need to determine what I know.

I know that a total of 358 apples were picked and 100 apples were given to a local food bank.

Fourth, I need to figure out what I can try.

I am going to try modeling the actions with base-ten blocks.

I will begin by building the original number of apples beginning with the hundreds...100, 200, 300. Next I will build the tens...10, 20, 30, 40, 50...and now the ones...1, 2, 3, 4, 5, 6, 7, 8.

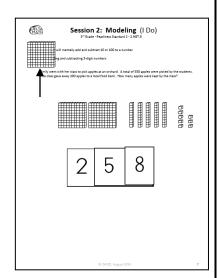
(Say each counting number while placing each tens piece on the paper.)

Now, I will model the 100 apples given away by moving a hundred piece away from the group.

(Move one tens piece on the paper.)

I can find the number of apples kept by the class by counting the number of hundreds, tens and ones left in the group. 2 hundreds...5 tens and 8 ones equals 258.

(Set the place-value cards "200", "50" and "8" under the base-ten blocks to represent the answer.)



Last, I need to make sure that my answer makes sense.

I found that 258 apples were kept by Emily's class. It makes sense because I knew that her class picked a total of 358 apples and gave 100 away. And, I used place-value blocks and cards to model the problem.

# Place-Value Cards (1 → 100)

	6	2	0	6	0
2	7	3	0	7	O
3	8	L	0	8	O
	9	5	0	9	O
5		0		O	0
Less Than	Sreater Than	Equal to	+ -	- X	•



# Place-Value Cards (200 → 900)

2	0	0	3	0	0
	0	O	5	0	0
6	0	0	7	0	0
8	0	0	9	0	0

# Session 1: Guided Practice (We Do)

**Materials:** Base-Ten Blocks (10 hundreds, 10 tens and 10 ones per student, or pair of students) and Place-Value Cards (See Session 1)

We Do Together: (Teacher Actions)

- > Use base-ten blocks and place-value cards to add and subtract 10 or 100 to a number.
  - o 1 hundred more than 9 hundreds is 10 hundreds or 1000. So, 100 more than 947 is 1047.
  - o 1 hundred less than 4 hundreds is 3 hundreds. So, 100 less than 462 is 362.

**Supporting Math Talk:** 

- ➤ 1 hundred more than 9 hundreds is 10 hundreds or 1000. So, 100 more than 947 is 1047.
- > Since I don't have any tens, I need to ungroup 1 hundred as 10 tens...so, 10 less than 508 is 498.

<b>1.</b> 94	ł7 + IOO =	2.	508 - IO =
3.	92 + 10 =	4.	391 - 100 =

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.

5.	594 + IO =	6. 385 - 100 =
7.	728 + 10 =	8. 498 - 100 =
9.	916 + 100 =	10. 203 - IO =



#### **Session 1: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own? (Thumbs up, down, or sideways)

## **Quick Check - Form A**

Name\_\_\_\_\_ Date\_\_\_\_

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)

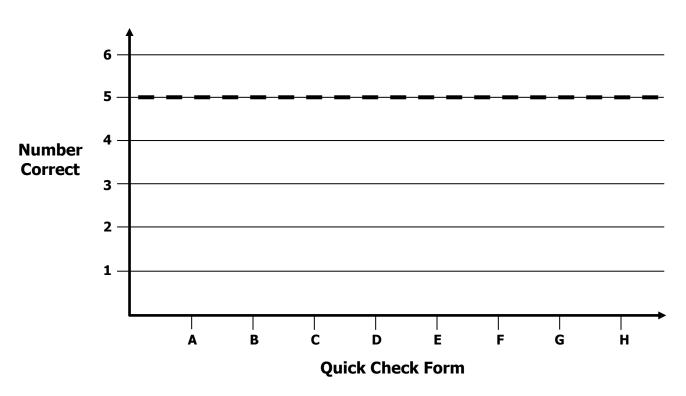


#### **Growth Chart**

Name Date
-----------

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

Goal: 5 out of 6 correct



Intervention	Date	Score
Session 1:		
Session 2:		
Session 3:		
Session 4:		
Session 5:		
Session 6:		
Session 7:		
Session 8:		

## Session 2: Guided Practice (We Do)

**Materials:** Base-Ten Blocks (10 hundreds, 10 tens and 10 ones per student, or pair of students) and Place-Value Cards (See Session 1)

We Do Together: (Teacher Actions)

- > Use base-ten blocks and place-value cards to add and subtract 10 or 100 to a number.
  - o 1 hundred more than 9 hundreds is 10 hundreds or 1000. So, 100 more than 947 is 1047.
  - o 1 hundred less than 4 hundreds is 3 hundreds. So, 100 less than 462 is 362.

**Supporting Math Talk:** 

- ▶ 1 hundred more than 9 hundreds is 10 hundreds or 1000. So, 100 more than 974 is 1074.
- Since I don't have any tens, I need to ungroup 1 hundred as 10 tens...so, 10 less than 306 is 296.

1.	974 + 100 =	2. 306 - IO =	
3.	294 + 10 =	4. 193 - 100 =	

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.

5.	495 + 10 =	6. 583 - 100 =
7.	827 + 10 =	8. 894 - 100 =
9.	619 + 100 =	10. 302 - IO =



#### **Session 2: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own?

(Thumbs up, down, or sideways)

## **Quick Check - Form B**

Name\_\_\_\_\_ Date\_\_\_\_

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)



## Session 3: Modeling (I do)

Learning Target: I will mentally add and subtract 10 or 100 to a number

**Readiness** for adding and subtracting 3-digit numbers

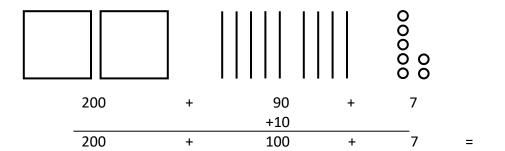
297 tickets were sold for today's football game during school. If 10 more tickets were sold after school, how many total tickets were sold?

## Session 3: Modeling (I do - Teacher Notes)

Learning Target: I will mentally add and subtract 10 or 100 to a number

Readiness for adding and subtracting 3-digit numbers

297 tickets were sold for tonight's football game during school. If 10 more tickets were sold after school, how many total tickets were sold?



I am going to think aloud to model solving this problem.

Your job is to watch, listen, think and ask questions.

First, it is important to know what the problem is about.

This problem is about ticket sales for tonight's football game.

Second, I need to determine what I need to find.

I need to find the total number of tickets sold for tonight's football game.

Third, I need to determine what I know.

I know that 297 tickets were sold during school and 10 more tickets were sold after school.

Fourth, I need to figure out what I can try.

I am going to try modeling the actions with math drawings.

I will begin by building the number of tickets sold during school beginning with the hundreds...100 and 200. Next, I will build the tens...10, 20, 30, 40, 50, 60, 70, 80, 90...and now the ones...1, 2, 3, 4, 5, 6, 7.

(Say each counting number while drawing it.)

Since there were 10 more tickets sold after school, I need to add another ten to the number, 297.

(Place 10 tens on the paper in place of a hundred.)

Now, I will find the totals of each place-value...2 hundreds is equal to 200, 10 tens is equal to another hundred and 7 ones is equal to 7. This gives us a total of 300 and 7 more, which is equal to 307.

(Write the place-value totals, the expanded form of the number and then the standard form.)

Last, I need to make sure that my answer makes sense.

I found that 307 total tickets were sold for tonight's football game. It makes sense because I knew that 297 tickets were sold during school and 10 more tickets were after school. And, I used a place-value drawing to model the situation and expanded notation to help find the answer.

307

# Session 3: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- Use a drawing to check your answer or to find the answer.

492 + 10 = \_\_\_\_

4.

## Session 3: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.

5.

6.

7.

8.

9.

10.



#### **Session 3: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own? (Thumbs up, down, or sideways)

## **Quick Check - Form C**

Name\_\_\_\_\_ Date\_\_\_\_

2.

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)

# Session 4: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- > Use a drawing to check your answer or to find the answer.

395 + 10 = \_\_\_\_

## Session 4: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.

5.

6.

7.

8.

9.

10.



#### **Session 4: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own? (Thumbs up, down, or sideways)

## **Quick Check - Form D**

Name\_\_\_\_\_ Date\_\_\_\_

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)

# Session 5: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- > Use a drawing to check your answer or to find the answer.

4.

## Session 5: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.



#### **Session 5: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own? (Thumbs up, down, or sideways)

## **Quick Check - Form E**

Name\_\_\_\_\_ Date\_\_\_\_

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)



## Session 6: Modeling (I Do)

Learning Target: I will mentally add and subtract 10 or 100 to a number

**Readiness** for adding and subtracting 3-digit numbers

Mrs. D. was practicing mental addition and subtraction with her students. She asked them to use their place-value understanding to mentally subtract 10 from 408. What is the answer and explain how her students might have found it?



#### **Session 6: Modeling (I Do - Teacher Notes)**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Readiness for adding and subtracting 3-digit numbers

Mrs. D. was practicing mental addition and subtraction with her students. She asked them to use their place-value understanding to mentally subtract 10 from 408. Why might this problem be difficult to do mentally and what is the answer?

I am going to think aloud to model solving this problem.

Your job is to watch, listen, think and ask questions.

First, it is important to know what the problem is about.

This problem is about Mrs. D. practicing mental addition and subtraction with her students.

Second, I need to determine what I need to find.

I need to find out why 408 – 10 might be hard to do mentally and then find the answer to the problem.

Third, I need to determine what I know.

I know that 408 is equal to 4 hundreds, zero tens and 8 ones and it may be difficult because there does not seem to be any tens to subtract from.

Fourth, I need to figure out what I can try.

(Write 408 – 10 vertically)

**↓ ④08 −10** 

398

40 tens

Since I need to subtract 10, I can think about 408 differently...as 40 tens and 8 ones.

(Circle the digits 40)

40 tens minus 1 ten is equal to 39 tens

(Write a 3 in the hundred's place and a 9 in the ten's place.)

Therefore, 408 – 10 is equal to 398.

(Write the in the ones place.)

Since 400 – 10 is 390, then 408 – 10 is 398.

Last, I need to make sure that my answer makes sense.

I found that 408 – 10 is 398. It makes sense because I knew I could use my place-value understanding to think of the number in terms of tens and ones and that allowed me to subtract ten much easier.

## Session 6: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- > Check your answer or find the answer by rewriting the problem vertically and identifying the place value digit(s) that will be added to or subtracted from.

## Session 6: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.

5.

6.

7.

8.

9.

10.



Name \_\_\_\_\_ Date \_\_\_\_

Learning Target: I will mentally add and subtract 10 or 100 to a number

## **Session 6: Guided Practice** (We Do – Teacher Notes)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- > Check your answer or find the answer by rewriting the problem vertically and identifying the place value digit(s) that will be added to or subtracted from.

1. 9 hundreds

9 hundreds plus 1 hundred is 10 hundreds... and 74 more is 1074 **2.** 60 Tens

60 tens minus 1 ten is 59 tens... and 8 ones is 598

**3.** 39 Tens

39 tens plus 1 ten is 40 tens... and 2 ones is 402 4. 3 hundreds

3 hundreds minus 1 hundred is 2 hundreds... and 91 more is 291



#### **Session 6: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own? (Thumbs up, down, or sideways)

## **Quick Check - Form F**

Name\_\_\_\_\_ Date\_\_\_\_

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)

## Session 7: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- > Check your answer or find the answer by rewriting the problem vertically and identifying the place value digit(s) that will be added to or subtracted from.

492 + 10 =

Learning Target: I will mentally add and subtract 10 or 100 to a number

## Session 7: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.

5.

6.

7.

8.

9.

10.



### **Session 7: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own?

(Thumbs up, down, or sideways)

### **Quick Check - Form G**

Name\_\_\_\_\_ Date\_\_\_\_

2.

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)

Learning Target: I will mentally add and subtract 10 or 100 to a number

## Session 8: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- > Say the addition or subtraction statement and write the answer if you know it.
- > Check your answer or find the answer by rewriting the problem vertically and identifying the place value digit(s) that will be added to or subtracted from.

297 + 10 = \_\_\_\_

Learning Target: I will mentally add and subtract 10 or 100 to a number

## Session 8: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

> Students take turns leading to add and subtract 10 or 100 to a number.



### **Session 8: Self-Reflection**

Learning Target: I will mentally add and subtract 10 or 100 to a number

Briefly discuss student responses

➤ What did I learn today about adding and subtracting 10 or 100 to a number?

➤ How confident do I feel about adding and subtracting 10 or 100 to a number on my own? (Thumbs up, down, or sideways)

### **Quick Check - Form H**

Name\_\_\_\_\_ Date\_\_\_\_

**Learning Target:** I will mentally add and subtract 10 or 100 to a number.

**Directions:** Write the answer to each problem. (Work time: 2 minutes)



### **Independent Practice** (You Do)

Name	Date

Learning Target: I will mentally add and subtract 10 or 100 to a number

Title of Game: "Three-in-a-row"

Number of Players: 2 or more

**Objective:** To be the player with the most cards at the end of the game.

#### **Materials:**

- > 1 set of add and subtract 10 or 100 problem cards (Set A or B)
- ➤ 1 Three-in-a-row mat per student
- > 9 counters per student

#### **Directions:**

- A student volunteer shows a "problem" card to the students.
- > The players say the problem in unison (without the answer) and looks for the answer on their game board.
- ➤ If the answer is on their game board, the player covers it with a counter.
- > Repeat until a player covers three-in-a-row and then verify their answers with the used set of problem cards.

#### Math Talk:

*"*307 – 10...

Since 30 tens minus 1 ten is 29 tens

So, 307 - 10 is 297"

### Three-in-a-Row Mat

#### **Player Directions:**

- ➤ Write 9 of the 10 answers to the "Three-in-a Row" cards in the boxes below...1 answer per box.
  - o Set A: 503, 806, 1062, 1038, 796, 499, 502, 853, 317, 782
  - o Set B: 307, 608, 1074, 1026, 694, 398, 502, 483, 418, 685
- After the student volunteer shows the problem card, say the problem (without the answer) out loud.
- Find the answer and cover it on your game board below.
  - o (Remember, one of the answers is not on your game board.)
- > The winner is the first student to cover three-in-a-row and check their answers with the group.

### Three-in-a-Row: Problem Cards (Set A)

493	+	10	=
サノン		TO	_

Set A

Sot A

Set A

Set A

Set A

Set A

Set

Set A

Set A

Set A

### Three-in-a-Row: Problem Cards (Set B)

297	+	10	=	

Set E

Sot B

Set B



# **Questions for Solving Word Problems**

$Q_1$	
	What is the problem about?
$Q_2$	
	What do I need to find?
$Q_3$	
	What do I know?
$Q_4$	
	What can I try?
$Q_5$	
	Does my answer make sense?



# **Steps for Solving Word Problems**

$Q_1$ . What is the problem about?		
Q <sub>2</sub> . What do I need to find?		
Q₃. What do I know?		
Q4. What can I try?		
Q <sub>5</sub> . Does my answer make sense?		
Q5. Dues my unswer muke sense:		