Tier 3
Intervention Lessons

7.NS.1d

Learning Target: I will add and subtract integers between -10 and 10

Readiness for 8.EE.7b: Solve multi-step linear equations

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Tier 3 Intervention Planning Guide

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Recommended Actions	
Beginning (5 min.)	➢ Review the learning target with the whole group ➢ Ask each student to set a goal for the day based on their previous Quick Check Score ➢ Have each student use a highlighter to plot their goal for the day
Middle (15 min.)	➢ Model solving a word problem – "I do" *(Sessions 1, 3 and 6 only)* ➢ Guided Practice – "We do" **Sessions 1 and 2:** Add and subtract using integer tiles **Sessions 3, 4 and 5:** Add and subtract using integer drawings showing zero pairs **Sessions 6, 7 and 8:** Add and subtract using integer understanding of zero pairs and add the opposite to subtract
End (10 min.)	➢ Bring the students back together ➢ Ask students to reflect on their progress towards the learning target o What did I learn today about adding and subtracting integers between -10 and 10? o How confident do you feel about adding and subtracting integers between -10 and 10 on my own? (Thumbs up, down, or sideways) ➢ Assess each student's progress using the next **Quick Check** form ➢ Guide students to self-correct their **Quick Check** ➢ Guide students to chart their progress in their **Growth Chart** o If not using Delta Math lessons, record the activity in the table ➢ Collect each student's **Quick Check** and **Growth Chart**
After Session 6	➢ Differentiation Options: o Allow students who met the learning goal to work independently while others do the guided practice during the next session o Exit students who met the learning goal for a third time ➢ Problem solve with a team to plan additional support for students who do not meet the learning goal within 8 sessions

Session 1: Modeling (I Do)

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him in a notebook called "Sam's Financial Journal". The recent balance was -10 dollars because she loaned him 10 dollars for a shirt. After mowing her lawn, Sam's grandma gave him 8 dollars toward his debt. What is the current balance in the journal?

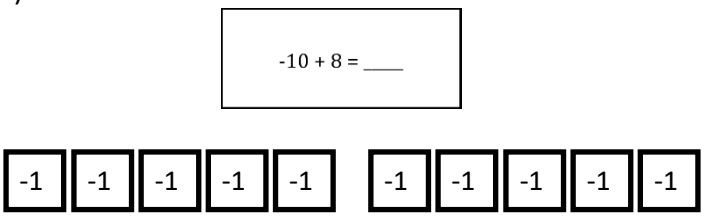
Session 1: Modeling *(I Do – Visual Support)*

Learning Target: I will add and subtract integers between -10 and 10

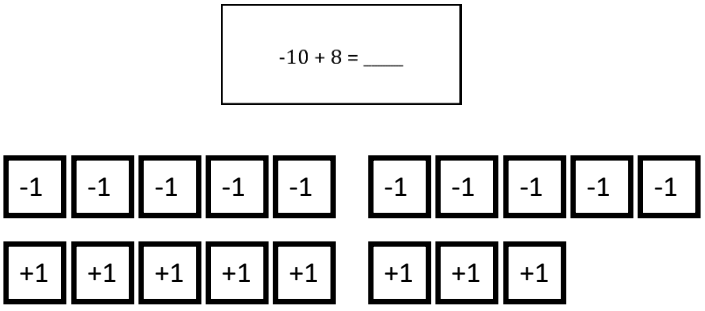
Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him in a notebook called "Sam's Financial Journal". The recent balance was -10 dollars because she loaned him 10 dollars for a shirt. After mowing her lawn, Sam's grandma gave him 8 dollars toward his debt. What is the current balance in the journal?

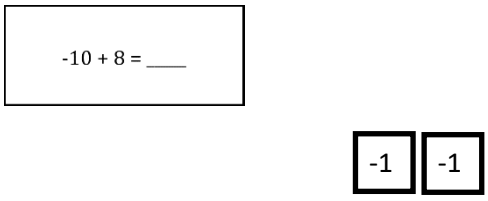
Build the starting balance (-10)



Add the deposit (8)



Remove the "Zero Pairs" (-8 and +8)



Find the current balance (-2)

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

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

> Sam's grandma keeps track of money that she loans him in a notebook called "Sam's Financial Journal". The recent balance was -10 dollars because she loaned him 10 dollars for a shirt. After mowing her lawn, Sam's grandma gave him 8 dollars toward his debt. What is the current balance in the journal?

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.

The problem is about "Sam's Financial Journal".

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

I need to find the current balance.

Third, I need to determine what I know.

I know that Sam's grandma recently loaned him 10 dollars for a shirt and after mowing her lawn, she gave him 8 dollars toward his debt. Also, I know money that is owed…or debt…can be represented as negative integers and money earned can be represented as positive integers.

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

I am going to try using integer chips and equation cards to find Sam's current balance.

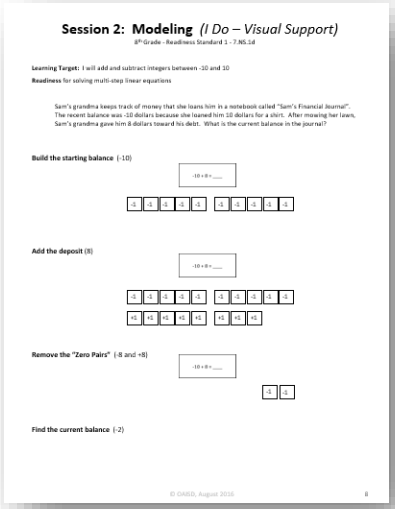
I need 10 negative chips to model Sam's current debt of 10 dollars.
(*Place 10 negative integer chips, leaving space to show the groups of 5.*)

Now, I will place 8 positive chips to show 8 dollars being added to Sam's debt.
(Place 8 positive integer chips underneath.)

10 negative and 8 positive chips represent the expression -10 + 8.
(Place the equation card "-10 + 8" on the Modeling page.)

To find Sam's current balance, I will cancel out 8 dollars of debt with 8 dollars of earnings. *(Remove 8 negative and 8 positive integer chips.)*

Sam has 2 dollars of debt left to pay. *(Point to the 2 negative chips.)*


Session 2: Modeling *(I Do – Visual Support)*

8th Grade - Readiness Standard 1 - 7.NS.1d

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him in a notebook called "Sam's Financial Journal". The recent balance was -10 dollars because she loaned him 10 dollars for a shirt. After mowing her lawn, Sam's grandma gave him 8 dollars toward his debt. What is the current balance in the journal?

Build the starting balance (-10)

Add the deposit (8)

Remove the "Zero Pairs" (-8 and +8)

Find the current balance (-2)

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

I found that Sam's balance is 2 dollars of debt. It makes sense because I built his recent balance of 10 dollars of debt using negative integer chips. Then, I added the 8 dollars he earned using positive chips to cancel out 8 dollars of debt. This left 2 dollars of debt which represents Sam's current balance in the journal.

Modeling & Guided Practice Cards

Use for Problem 1 (-5) + 7 = ____	Use for Problem 2 4 + (-6) = ____
Use for Problem 3 (-4) + (-9) = ____	Use for Problem 4 (-7) – (-5) = ____
Use for Problem 5 -6 + (-9) = ____	Use for Problem 6 (-8) – (-5) = ____
Use for Problem 7 4 + (-8) = ____	Use for Problem 8 (-9) – (-4) = ____
Use for Problem 9 (-3) + 5 = ____	Use for Problem 10 5 + (-7) = ____
Use for Modelling -10 + 8 = ____	

Integer Chips (3 Sets)

+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 1: Guided Practice (We Do)

Materials:

- Integer Chips (20 positive chips and 20 negative chips)
- Integer Equation Cards (1 set)

We Do Together: (Teacher Actions)

- Say the situation and model Grandma's actions using an equation card and integer chips.

1. Sam's recent balance was -5 dollars Then he earned \$7, so his Grandma *added* \$7 to his recent balance What is Sam's new balance? $(-5) + 7 = \_\_\_\_$	**2.** Sam's recent balance was 4 dollars Then he spent \$6, so his Grandma *added* \$6 of debt to his recent balance What is Sam's new balance? $4 + (-6) = \_\_\_\_$
3. Sam's recent balance was -4 dollars Then he spends \$9, so his Grandma *added* \$9 of debt to his recent balance What is Sam's new balance? $(-4) + (-9) = \_\_\_\_$	**4.** Sam's recent balance was -7 dollars Then he earns \$5, so his grandma *took away* \$5 of debt from his recent balance What is Sam's new balance? $(-7) - (-5) = \_\_\_\_$

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 1: Guided Practice (We Do - Continued)

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

- Students take turns leading to add and subtract using integer chips.

5. Sam's recent balance was -6 dollars Then he spends $9, so his Grandma *added* $9 of debt to his recent balance What is Sam's new balance? $(-6) + (-9) =$ ____	**6.** Sam's recent balance was -8 dollars Then he earns $5, so his grandma *took away* $5 of debt from his recent balance What is Sam's new balance? $(-8) - (-5) =$ ____
7. Sam's recent balance was 4 dollars Then he spends $8, so his Grandma *added* $8 of debt to his recent balance What is Sam's new balance? $4 + (-8) =$ ____	**8.** Sam's recent balance was -9 dollars Then he earns $4, so his grandma *took away* $4 of debt from his recent balance What is Sam's new balance? $(-9) - (-4) =$ ____
9. Sam's recent balance was -3 dollars Then he earned $5, so his Grandma *added* $5 to his recent balance What is Sam's new balance? $(-3) + 5 =$ ____	**10.** Sam's recent balance was 5 dollars Then he spends $7, so his Grandma *added* $7 of debt to his recent balance What is Sam's new balance? $5 + (-7) =$ ____

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 1: Guided Practice (We Do – Teacher Notes)

Materials:

- Integer Chips (20 positive chips and 20 negative chips)
- Integer Equation Cards (1 set)

We Do Together: (Teacher Actions)

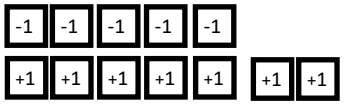
- Say the situation and model Grandma's actions using an equation card and integer chips.

1.

Sam's recent balance was -5 dollars

Then he earned $7, so his Grandma *added* $7 to his recent balance

What is Sam's new balance?



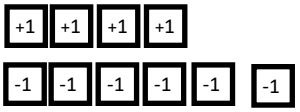
(-5) + 7 = 2

2.

Sam's recent balance was 4 dollars

Then he spent $6, so his Grandma *added* $6 of debt to his recent balance

What is Sam's new balance?



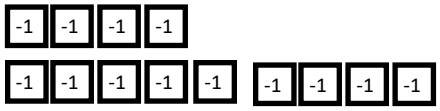
4 + (-6) = -2

3.

Sam's recent balance was -4 dollars

Then he spends $9, so his Grandma *added* $9 of debt to his recent balance

What is Sam's new balance?



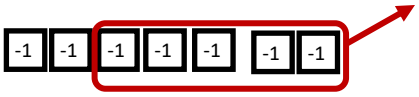
(-4) + (-9) = -13

4.

Sam's recent balance was -7 dollars

Then he earns $5, so his grandma took away $5 of debt from his recent balance

What is Sam's new balance?



(-7) – (-5) = -2

Session 1: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form A

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

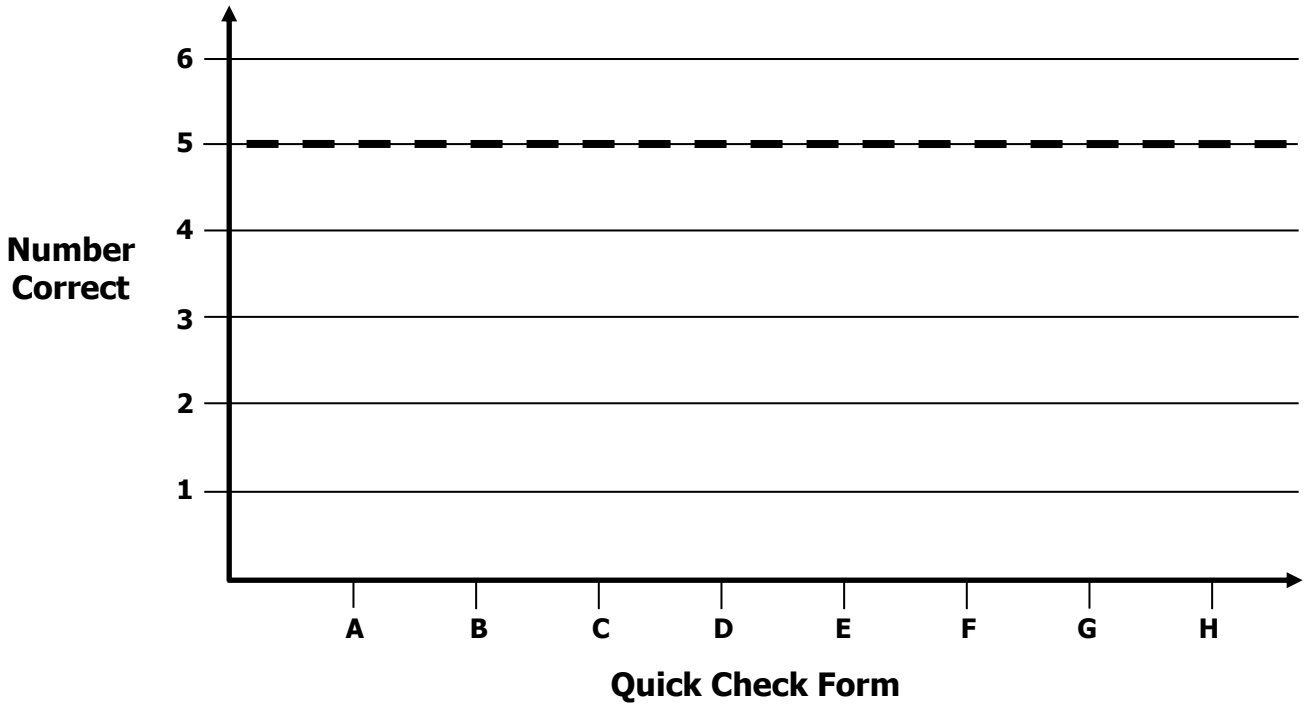
1. (-6) + 2	**2.** 4 + (-9)
3. -8 + 6	**4.** 5 – (-2)
5. -10 – (-4)	**6.** -12 – (-3)

Growth Chart

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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:		

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 2: Guided Practice (We Do)

Materials:

- Integer Chips (20 positive chips and 20 negative chips)
- Integer Equation Cards (1 set – See Session 1)

We Do Together: (Teacher Actions)

- Say the situation and model Grandma's actions using an equation card and integer chips.

1. Sam's recent balance was -5 dollars Then he earned \$8, so his Grandma *added* \$8 to his recent balance What is Sam's new balance? $(-5) + 8 = \_\_\_\_$	**2.** Sam's recent balance was 2 dollars Then he spent \$6, so his Grandma *added* \$6 of debt to his recent balance What is Sam's new balance? $2 + (-6) = \_\_\_\_$
3. Sam's recent balance was -4 dollars Then he spends \$7, so his Grandma *added* \$7 of debt to his recent balance What is Sam's new balance? $(-4) + (-7) = \_\_\_\_$	**4.** Sam's recent balance was -9 dollars Then he earns \$5, so his grandma *took away* \$5 of debt from his recent balance What is Sam's new balance? $(-9) - (-5) = \_\_\_\_$

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 2: Guided Practice (We Do - Continued)

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

- Students take turns leading to add and subtract using integer chips.

5. Sam's recent balance was -5 dollars Then he spends \$9, so his Grandma *added* \$9 of debt to his recent balance What is Sam's new balance? $(-5) + (-9) =$ ____	**6.** Sam's recent balance was -7 dollars Then he earns \$5, so his grandma *took away* \$5 of debt from his recent balance What is Sam's new balance? $(-7) - (-5) =$ ____
7. Sam's recent balance was 4 dollars Then he spends \$9, so his Grandma *added* \$9 of debt to his recent balance What is Sam's new balance? $4 + (-9) =$ ____	**8.** Sam's recent balance was -10 dollars Then he earns \$4, so his grandma *took away* \$4 of debt from his recent balance What is Sam's new balance? $(-10) - (-4) =$ ____
9. Sam's recent balance was -3 dollars Then he earned \$7, so his Grandma *added* \$7 to his recent balance What is Sam's new balance? $(-3) + 7 =$ ____	**10.** Sam's recent balance was 6 dollars Then he spends \$7, so his Grandma *added* \$7 of debt to his recent balance What is Sam's new balance? $6 + (-7) =$ ____

Session 2: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form B

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-7) + 6	**2.** 2 + (-8)
3. -9 + 4	**4.** 3 – (-5)
5. -8 – (-2)	**6.** -10 – 3

Session 3: Modeling (I Do)

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him a notebook called "Sam's Financial Journal". The recent balance was -3 dollars because she loaned him 3 dollars for a ball. After taking out her trash, Sam's grandma took away 5 dollars from his debt. What is Sam's current balance in the journal?

Session 3: **Modeling** (Visual Support)

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him a notebook called "Sam's Financial Journal". The recent balance was -3 dollars because she loaned him 3 dollars for a ball. After taking out her trash, Sam's grandma took away 5 dollars from his debt. What is Sam's current balance in the journal?

$$(-3) - (-5) =$$

Draw the starting balance (-3)

$$(-3) - (-5) =$$

– – –

Draw additional "Zero Pairs" if necessary (2)

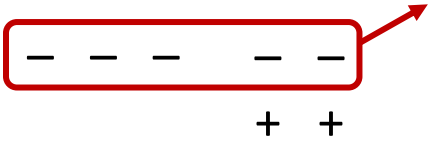
$$(-3) - (-5) =$$

– – – – –

+ +

Remove the debt (-5)

$$(-3) - (-5) =$$



Find the current balance (+2)

Session 3: Modeling *(I Do - Teacher Notes)*

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

> Sam's grandma keeps track of money that she loans him a notebook called "Sam's Financial Journal". The recent balance was -3 dollars because she loaned him 3 dollars for a ball. After taking out her trash, Sam's grandma took away 5 dollars from his debt. What is Sam's current balance in the journal?

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.

The problem is about "Sam's Financial Journal".

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

I need to find the current balance.

Third, I need to determine what I know.

I know that Sam's grandma recently loaned him 3 dollars for a ball and after taking out her trash, she took away 5 dollars from his debt. Also, I know money that is owed…or debt…can be recorded as negative integers and the act of taking away can be represented as subtraction.

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

I am going to try using integer drawings to find Sam's current balance.

I will begin by drawing the expression (-3) – (-5), since Sam began 3 dollars in debt and his grandma took away 5 dollars of debt.
(Write the equation "(-3) – (-5)*" on the Modeling page.)*

I need to draw 3 negative signs to represent Sam's current debt of 3 dollars.
(*Draw 3 negative signs.*)

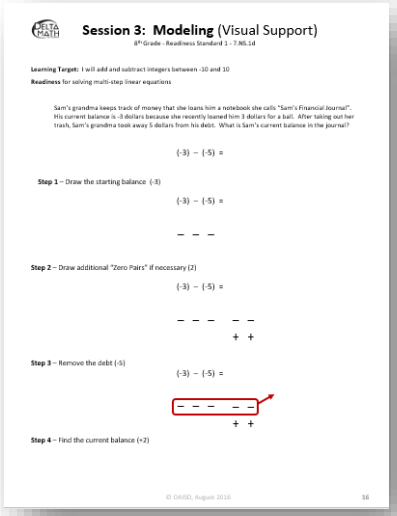
Next, I need to take away 5 negative signs, but I don't have enough!
(Point to the 3 negative signs.)

Zero pairs can be added to any expression without changing it's value
(Draw 2 zero pairs.)

Please notice that the recent balance is still equal to 3 negatives since the 2 zero pairs cancel out each other.

Now I can take away 5 negatives…
(Circle and draw an arrow to represent taking away 5 negatives.)

The current balance is 2 positive dollars available for future purchases. *(Point to the 2 positives.)*


Session 3: Modeling (Visual Support)

8th Grade - Readiness Standard 1 - 7.NS.1d

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him a notebook she calls "Sam's Financial Journal". His current balance is -3 dollars because she recently loaned him 3 dollars for a ball. After taking out her trash, Sam's grandma took away 5 dollars from his debt. What is Sam's current balance in the journal?

(-3) – (-5) =

Step 1 – Draw the starting balance (-3)

(-3) – (-5) =

– – –

Step 2 – Draw additional "Zero Pairs" if necessary (2)

(-3) – (-5) =

– – – – –
+ +

Step 3 – Remove the debt (-5)

(-3) – (-5) =

– – – – –
+ +

Step 4 – Find the current balance (+2)

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

I found that Sam's new balance is 2 dollars of debt. It makes sense because I drew his recent balance of 3 dollars of debt using 3 negative integer chips. Then, I subtracted 5 dollars of debt by drawing 2 zero pairs. This left 2 dollars as new balance.

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 3: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Say the integer problem and use a drawing to represent the action of addition or taking away.

Subtract: a – b	Add the Opposite/Additive Inverse: a + (-b)
1. (-2) – (-6) = ____	**2.** (-2) + (+6) = ____
3. 4 – (-3) = ____	**4.** 4 + (+3) = ____
5. (-5) – (-2) = ____	**6.** (-5) + (+2) = ____
7. 3 – 7 = ____	**8.** 3 + (-7) = ____

Looking for Structure:

9. Does adding the opposite appear to give the same result as subtracting any integer?

10. When is it easier to add the opposite instead of subtracting an integer?

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

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 integers using drawings to represent action.

Subtract: a – b	Add the Opposite/Additive Inverse: a + (-b)
11. (-2) – (-7) = ____	**12.** (-2) + (+7) = ____
13. 4 – (-2) = ____	**14.** 4 + (+2) = ____
15. (-8) – (-3) = ____	**16.** (-8) + (+3) = ____
17. 3 – 9 = ____	**18.** 3 + (-9) = ____

Looking for Structure:

19. When adding a positive and a negative integer, how can you determine the sign of the answer?

20. When adding a positive and a negative integer, what would be the answer if there are 4 more negatives than positives?

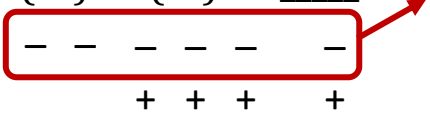
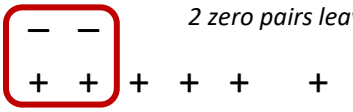
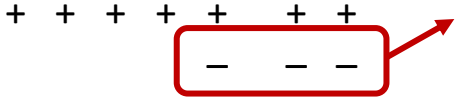
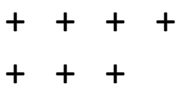
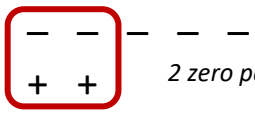
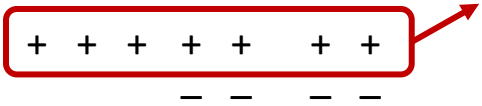
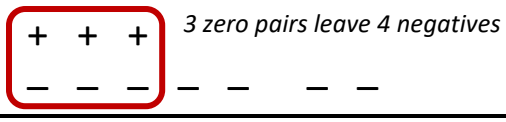
Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 3: Guided Practice (We Do – Teacher Notes)

We Do Together: (Teacher Actions)

- Say the integer problem and use a drawing to represent the action of addition or taking away.

Subtract: a – b	**Add the Opposite/Additive Inverse: a + (-b)**
1. (-2) – (-6) = 4  *Add 4 zero pairs and take away 6 negatives*	**2.** (-2) + (+6) = 4  *2 zero pairs leave 4 positives*
3. 4 – (-3) = 7  *Add 3 zero pairs and take away 3 negatives*	**4.** 4 + (+3) = 7 
5. (-5) – (-2) = -3  *Take away 2 negatives*	**6.** (-5) + (+2) = -3  *2 zero pairs leave 3 negatives*
7. 3 – 7 = -4  *Add 4 zero pairs and take away 7 positives*	**8.** 3 + (-7) = -4  *3 zero pairs leave 4 negatives*

Looking for Structure:

9. Does adding the opposite appear to give the same result as subtracting any integer? Yes

10. When is it generally easier to add the opposite in comparison to subtracting most integers? When you are trying to take away more positives or negatives than are given in the total.

Session 3: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form C

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-8) + 1	**2.** 5 + (-7)
3. (-12) + (-2)	**4.** 4 – (-5)
5. -2 – (-5)	**6.** -6 – 2

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 4: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Say the integer problem and use a drawing to represent the action of addition or taking away.

Subtract: a – b	Add the Opposite/Additive Inverse: a + (-b)
1. (-2) – (-5) = ____	**2.** (-2) + (+5) = ____
3. 7 – (-3) = ____	**4.** 7 + (+3) = ____
5. (-5) – (-1) = ____	**6.** (-5) + (+1) = ____
7. 3 – 8 = ____	**8.** 3 + (-8) = ____

Looking for Structure:

9. Does adding the opposite appear to give the same result as subtracting any integer?

10. When is it easier to add the opposite instead of subtracting an integer?

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 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 integers using drawings to represent action.

Subtract: a – b	**Add the Opposite/Additive Inverse: a + (-b)**
11. (-4) – (-7) = ____	**12.** (-4) + (+7) = ____
13. 6 – (-2) = ____	**14.** 6 + (+2) = ____
15. (-8) – (-5) = ____	**16.** (-8) + (+5) = ____
17. 1 – 4 = ____	**18.** 1 + (-4) = ____

Looking for Structure:

19. When adding a positive and a negative integer, how can you determine the sign of the answer?

20. When adding a positive and a negative integer, what would be the answer if there are 4 more negatives than positives?

Session 4: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form D

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-10) + 7	**2.** 4 + (-7)
3. -12 + 6	**4.** -7 – 5
5. 2 – (-8)	**6.** -1 – (-9)

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 5: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Say the integer problem and use a drawing to represent the action of addition or taking away.

Subtract: a – b	Add the Opposite/Additive Inverse: a + (-b)
1. (-1) – (-6) = ____	**2.** (-1) + (+6) = ____
3. 4 – (-2) = ____	**4.** 4 + (+2) = ____
5. (-7) – (-2) = ____	**6.** (-7) + (+2) = ____
7. 5 – 7 = ____	**8.** 5 + (-7) = ____

Looking for Structure:

9. Does adding the opposite appear to give the same result as subtracting any integer?

10. When is it easier to add the opposite instead of subtracting an integer?

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

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 integers using drawings to represent action.

Subtract: a – b	Add the Opposite/Additive Inverse: a + (-b)
11. (-2) – (-5) = ____	**12.** (-2) + (+5) = ____
13. 4 – (-3) = ____	**14.** 4 + (+3) = ____
15. (-9) – (-2) = ____	**16.** (-9) + (+2) = ____
17. 3 – 5 = ____	**18.** 3 + (-5) = ____

Looking for Structure:

19. When adding a positive and a negative integer, how can you determine the sign of the answer?

20. When adding a positive and a negative integer, what would be the answer if there are 4 more negatives than positives?

Session 5: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form E

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-6) + 2	**2.** 4 + (-9)
3. -8 + 6	**4.** 5 – (-2)
5. -10 – (-4)	**6.** -12 – (-3)

Session 6: Modeling (I Do)

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him a notebook called "Sam's Financial Journal". The recent balance was -7 dollars because she loaned him 7 dollars for a hat. After washing the dishes, Sam's grandma took away 10 dollars from his debt. What is Sam's current balance in the journal?

Session 6: **Modeling** (Visual Support)

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

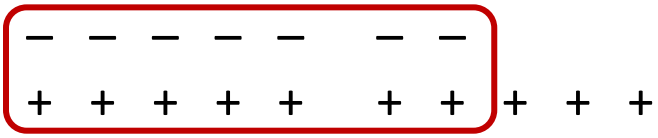
Sam's grandma keeps track of money that she loans him a notebook called "Sam's Financial Journal". The recent balance was -7 dollars because she loaned him 7 dollars for a hat. After washing the dishes, Sam's grandma took away 10 dollars from his debt. What is Sam's current balance in the journal?

$$(-7) - (-10) =$$

Rewrite the subtraction problem as an equivalent expression by adding the additive inverse

$$(-7) - (-10) = (-7) + (+10) =$$

Picture 7 zero pairs in your head



Are there more positives or negatives? (Positives)

How many more? (3)

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

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him a notebook called "Sam's Financial Journal". The recent balance was -7 dollars because she loaned him 7 dollars for a hat. After washing the dishes, Sam's grandma took away 10 dollars from his debt. What is Sam's current balance in the journal?

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

The problem is about "Sam's Financial Journal".

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

I need to find the current balance.

Third, I need to determine what I know.

I know that Sam's grandma recently loaned him $7 for a hat and after washing the dishes, she took away 10 dollars toward his debt. Also, I know money that is owed…or debt…can be recorded as negative integers and the act of taking away can be represented as subtraction.

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

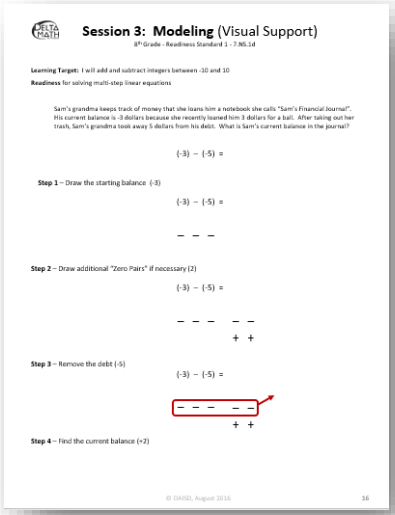
I am going to use an equation and my understanding of integers to find Sam's current balance.

Since Sam's grandma is taking 10 dollars of debt away from 7 dollars of debt, I will represent the situation with a subtraction problem…(-7) – (-10)
(Write (-7) – (-10) on the modeling page.)

I know it's a little more difficult to think about taking away 10 negatives from 7 negatives, so I am going to rewrite the expression by adding the additive inverse of negative 10.
(Write " = (-7) + (+10)" next to the subtraction problem.)

Now that I am adding, I can picture 7 zero pairs since I know that there are 7 positive and 7 negative integers being added together to equal zero.
(*Draw the 7 negatives, 10 positives and a circle around the 7 zero pairs.*)

And after the zero pairs cancel each other out, I am left with 3 positives.
(Write 3 as the answer.)


Session 3: **Modeling** (Visual Support)

8th Grade - Readiness Standard 1 - 7.NS.1d

Learning Target: I will add and subtract integers between -10 and 10

Readiness for solving multi-step linear equations

Sam's grandma keeps track of money that she loans him a notebook she calls "Sam's Financial Journal". His current balance is -3 dollars because she recently loaned him 5 dollars for a ball. After taking out her trash, Sam's grandma took away 5 dollars from his debt. What is Sam's current balance in the journal?

(-3) – (-5) =

Step 1 – Draw the starting balance (-3)

(-3) – (-5) =

– – –

Step 2 – Draw additional "Zero Pairs" if necessary (2)

(-3) – (-5) =

– – – – –
+ +

Step 3 – Remove the debt (-5)

(-3) – (-5) =

– – – – –
+ +

Step 4 – Find the current balance (+2)

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

I found that Sam's balance is 3 dollars available to spend. It makes sense because I built an expression to represent is grandma taking 10 dollars of debt from 7 dollars of debt. Then I rewrote the subtraction expression as an equivalent addition expression using the additive inverse. Then I thought about zero pairs to determine that there were 3 more positives than negatives in the addition expression.

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 6: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Describe the integer problem and rewrite it as an equivalent expression if helpful.

1. $(-4) - (-6) =$ ____	**2.** $8 + (-3) =$ ____
3. $3 - 7 =$ ____	**4.** $(-5) + (-9) =$ ____
5. $(-4) - (3) =$ ____	**6.** $5 - 9 =$ ____
7. $5 - (-7) =$ ____	**8.** $(-8) + (6) =$ ____
9. $(-7) + 9 =$ ____	**10.** $(-9) - (-6) =$ ____

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 6: Guided Practice (We Do - Continued)

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

- Students take turns leading and repeat the steps to add and subtract integers.

11. $(-8) - (-6) =$ ____	**12.** $8 + (-5) =$ ____
13. $2 - 9 =$ ____	**14.** $(-3) + (-7) =$ ____
15. $(-5) - (3) =$ ____	**16.** $4 - 8 =$ ____
17. $7 - (-5) =$ ____	**18.** $(-5) + (6) =$ ____
19. $(-9) + 8 =$ ____	**20.** $(-3) - (-7) =$ ____

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

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

We Do Together: (Teacher Actions)

- Describe the integer problem and rewrite it as an equivalent expression if helpful.

1. *Say: Take away 6 negatives from 4 negatives* $(-4) - (-6) =$ 2 *Rewrite as: (-4) + (+6) =* *Think: 4 zero pairs and 2 more positives*	**2.** *Say: Add 3 negatives to 8 positives* $8 + (-3) =$ 5 *Think: 3 zero pairs and 5 more positives*
3. *Say: Take away 7 positives from 3 positives* $3 - 7 =$ -4 *3 + (-7) =* *Think: 3 zero pairs and 4 more negatives*	**4.** *Say: Add 5 negatives to 9 negatives* $(-5) + (-9) =$ -14 *Think: 14 total negatives*
5. *Take away 3 positives from 4 negatives* $(-4) - (3) =$ -7 *Rewrite as: (-4) + (-3) =* *Think: 7 total negatives*	**6.** *Say: Take away 9 positives from 5 positives* $5 - 9 =$ -4 *Rewrite as: 5 + (-9) =* *Think: 5 zero pairs and 4 more negatives*
7. *Say: Take away 7 negatives from 5 positives* $5 - (-7) =$ 12 *Rewrite as: 5 + (7) =* *Think: 12 total positives*	**8.** *Say: Add 6 positives to 8 negatives* $(-8) + (6) =$ -2 *Think: 6 zero pairs and 2 more negatives*
9. *Say: Add 9 positives to 7 negatives* $(-7) + 9 =$ 2 *Think: 7 zero pairs and 2 more positives*	**10.** *Say: Take away 6 negatives from 9 negatives* $(-9) - (-6) =$ 3 *Rewrite as: (-9) + (+6) =* *Think: 6 zero pairs and 3 more negatives*

Session 6: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form F

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-7) + 6	**2.** 2 + (-8)
3. -9 + 4	**4.** 3 – (-5)
5. -8 – (-2)	**6.** -10 – 3

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 7: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Describe the integer problem and rewrite it as an equivalent expression if helpful.

1. $(-2) - (-6) =$ ____	**2.** $8 + (-2) =$ ____
3. $4 - 7 =$ ____	**4.** $(-5) + (-6) =$ ____
5. $(-5) - (3) =$ ____	**6.** $5 - 7 =$ ____
7. $3 - (-7) =$ ____	**8.** $(-9) + (6) =$ ____
9. $(-2) + 9 =$ ____	**10.** $(-8) - (-6) =$ ____

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 7: Guided Practice (We Do - Continued)

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

- Students take turns leading and repeat the steps to add and subtract integers.

11. $(-9) - (-6) =$ ____	**12.** $8 + (-3) =$ ____
13. $2 - 5 =$ ____	**14.** $(-3) + (-9) =$ ____
15. $(-8) - (3) =$ ____	**16.** $4 - 7 =$ ____
17. $7 - (-4) =$ ____	**18.** $(-4) + (6) =$ ____
19. $(-9) + 7 =$ ____	**20.** $(-2) - (-8) =$ ____

Session 7: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form G

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-8) + 1	**2.** 5 + (-7)
3. (-12) + (-2)	**4.** 4 – (-5)
5. -2 – (-5)	**6.** -6 – 2

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 8: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Describe the integer problem and rewrite it as an equivalent expression if helpful.

1. $(-4) - (-5) =$ ____	**2.** $7 + (-3) =$ ____
3. $3 - 6 =$ ____	**4.** $(-1) + (-9) =$ ____
5. $(-4) - (9) =$ ____	**6.** $3 - 9 =$ ____
7. $5 - (-8) =$ ____	**8.** $(-8) + (5) =$ ____
9. $(-7) + 3 =$ ____	**10.** $(-9) - (-4) =$ ____

Name _____ Date _____

Learning Target: I will add and subtract integers between -10 and 10

Session 8: Guided Practice (We Do - Continued)

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

- Students take turns leading and repeat the steps to add and subtract integers.

11. $(-8) - (-5) =$ ____	**12.** $6 + (-5) =$ ____
13. $3 - 9 =$ ____	**14.** $(-2) + (-7) =$ ____
15. $(-5) - (4) =$ ____	**16.** $6 - 8 =$ ____
17. $9 - (-5) =$ ____	**18.** $(-8) + (6) =$ ____
19. $(-2) + 8 =$ ____	**20.** $(-3) - (-7) =$ ____

Session 8: Self-Reflection

Learning Target: I will add and subtract integers between -10 and 10

Briefly discuss student responses

- What did I learn today about adding and subtracting integers between -10 and 10?

- How confident do I feel about adding and subtracting integers between -10 and 10? *(Thumbs up, down, or sideways)*

Quick Check - Form H

Name_____ Date_____

Learning Target: I will add and subtract integers between -10 and 10.

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

1. (-10) + 7	**2.** 4 + (-7)
3. -12 + 6	**4.** -7 – 5
5. 2 – (-8)	**6.** -1 – (-9)

Independent Practice 1 (You Do)

Learning Target: I will add and subtract integers between -10 and 10.

Title of Game: "Add the Opposite to Subtract: Match-ups"

Number of Players: 2

Objective: To be the first player to match all 5 cards.

Materials:

- Subtraction Cards (1 set)
- Add the Opposite Cards (1 set)
- Add the Opposite to Subtract: Recording sheet (1 per student - Optional)

Directions:

- Place a set of **Add the Opposite Cards** face-down in a row.
- Place a set of **Subtraction Cards** face-up underneath the row, 5 for each player.
- Player 1 turns over a **Add the Opposite Card** to see if it matches one of their **Subtraction cards**.
    - If there is an equivalent expression, say the addition expression, describe how to get the answer and the answer. Then, pick up the card and place it below your card.
    - If there is not an equivalent expression, then say "Not Equivalent" and turn the card back over.
- Player 2 turns over an **Add the Opposite Card** to see if it matches one of their **Subtraction cards**.
    - If there is an equivalent expression, say the addition expression, describe how to get the answer and the answer. Then, pick up the card and place it below your card.
    - If there is not an equivalent expression, then say "Not Equivalent" and turn the card back over.
- Repeat
- The winner is the first player to match all 5 cards.

Math Talk:

"I have an equivalent expression… negative 2 plus 6 has 2 zero pairs and 4 more positives"

Subtraction Cards (Set A)

Storage Suggestions: Copy the **Subtraction** cards and **Add the Opposite** cards in two different colors. Store 1 set of each in a sealable bag for each pair of students.

$(-2) - (-6)$ *Set A*	$(-8) - (-6)$ *Set A*
$4 - (-3)$ *Set A*	$1 - (-4)$ *Set A*
$(-5) - (-2)$ *Set A*	$(-9) - (-2)$ *Set A*
$3 - 7$ *Set A*	$4 - 9$ *Set A*
$6 - (-4)$ *Set A*	$7 - (-5)$ *Set A*

Add the Opposite Cards (Set A)

Storage Suggestions: Copy the **Subtraction** cards and **Add the Opposite** cards in two different colors. Store 1 set of each in a sealable bag for each pair of students.

$(-2) + (+6)$ *Set A*	$(-8) + (+6)$ *Set A*
$4 + (+3)$ *Set A*	$1 + (+4)$ *Set A*
$(-5) + (+2)$ *Set A*	$(-9) + (+2)$ *Set A*
$3 + (-7)$ *Set A*	$4 + (-9)$ *Set A*
$6 + (+4)$ *Set A*	$7 + (+5)$ *Set A*

Subtraction Cards (Set B)

Storage Suggestions: Copy the **Subtraction** cards and **Add the Opposite** cards in two different colors. Store 1 set of each in a sealable bag for each pair of students.

$(-4) - (-6)$ *Set B*	$(-9) - (-6)$ *Set B*
$5 - (-3)$ *Set B*	$2 - (-4)$ *Set B*
$(-6) - (-2)$ *Set B*	$(-7) - (-2)$ *Set B*
$4 - 7$ *Set B*	$5 - 9$ *Set B*
$7 - (-4)$ *Set B*	$8 - (-5)$ *Set B*

Add the Opposite Cards (Set B)

Storage Suggestions: Copy the **Subtraction** cards and **Add the Opposite** cards in two different colors. Store 1 set of each in a sealable bag for each pair of students.

$(-4) + (+6)$ *Set B*	$(-9) + (+6)$ *Set B*
$5 + (+3)$ *Set B*	$2 + (+4)$ *Set B*
$(-6) + (+2)$ *Set B*	$(-7) + (+2)$ *Set B*
$4 + (-7)$ *Set B*	$5 + (-9)$ *Set B*
$7 + (+4)$ *Set B*	$8 + (+5)$ *Set B*

Name _____ Date _____

Learning Target: I will add integers between -10 and 10

Independent Practice 1: Add the Opposite to Subtract

(Recording Sheet)

Directions:

- Record the subtraction expression cards for each player
- As each equivalent subtraction expression is found, record the expression and answer below its match.

Math Talk:

"I have an equivalent expression… negative 2 plus 6 has 2 zero pairs and 4 extra positives"

Player 1

____ – ____ = ____	____ – ____ = ____	____ – ____ = ____	____ – ____ = ____	____ – ____ = ____
____ + ____ = ____	____ + ____ = ____	____ + ____ = ____	____ + ____ = ____	____ + ____ = ____

Player 2

____ – ____ = ____	____ – ____ = ____	____ – ____ = ____	____ – ____ = ____	____ – ____ = ____
____ + ____ = ____	____ + ____ = ____	____ + ____ = ____	____ + ____ = ____	____ + ____ = ____

Independent Practice 2 (You Do)

Learning Target: I will add and subtract integers between -10 and 10.

Title of Game: Build the Smallest Sum

Number of Players: 2

Objective: To build two numbers with the smallest sum.

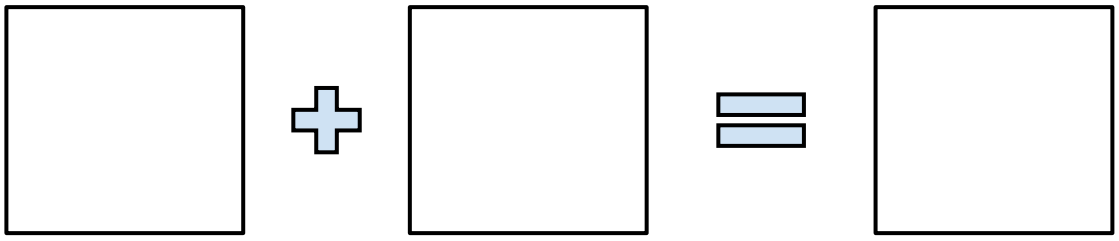
Materials: 1 set of integer cards and 1 recording sheet per player.

Directions:

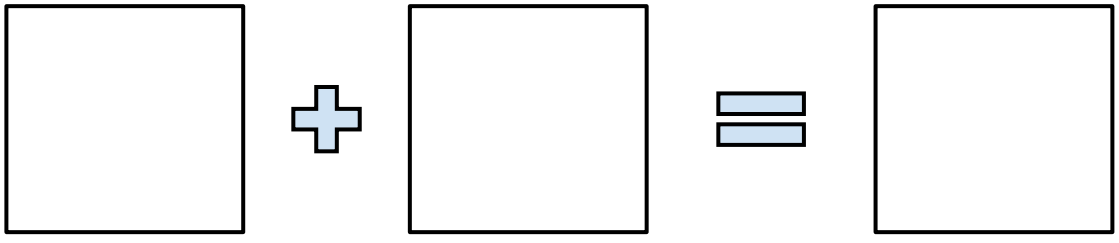
- Shuffle the integer cards and deal each player 12 cards
- Each player chooses 2 integer cards and place them on the game mat.
- After both integer addition problems have been created, each player writes their problem on the recording sheet and finds their sum.
- Each player shares their problem. Example
- *"I had -6 and 8, my sum is 2."*
- The player with the smallest sum circles the problem on their recording sheet.
- Repeat for 6 rounds total. If a player draws a WILD card they can select any integer from -10 to 10 to represent the value of the card.
- The winner of the game is the player with the most problems circled.

Game Mat

Player 1



Player 2



Name _____ Date _____

Learning Target: I will add integers between -10 and 10

Independent Practice 2: Build the Smallest Sum

(Recording Sheet)

Round 1	**Round 2**
Round 3	**Round 4**
Round 5	**Round 6**

Independent Practice 3 (You Do)

Learning Target: I will add and subtract integers between -10 and 10.

Title of Game: Build the Greatest Difference

Number of Players: 2

Objective: To build two numbers with the greatest difference.

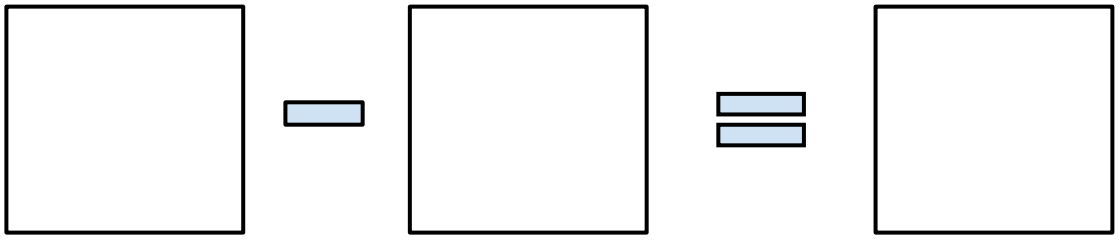
Materials: 1 set of integer cards and 1 recording sheet per player.

Directions:

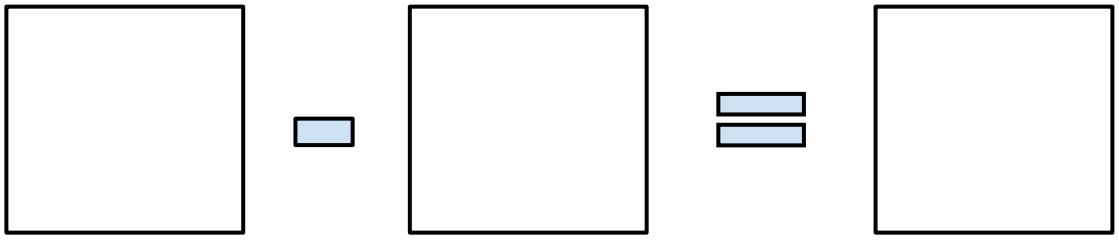
- Shuffle the integer cards and deal each player 12 cards
- Each player chooses 2 integer cards and place them on the game mat.
- After both integer subtraction problems have been created, each player writes their problem on the recording sheet and finds their difference.
- Each player shares their problem. Example
- *"I had -6 and 8, my difference is -14."*
- The player with the greatest difference circles the problem on their recording sheet.
- Repeat for 6 rounds total. If a player draws a WILD card they can select any integer from -10 to 10 to represent the value of the card.
- The winner of the game is the player with the most problems circled.

Game Mat

Player 1



Player 2



Name _____ Date _____

Learning Target: I will add integers between -10 and 10

Independent Practice 3: Build the Greatest Difference

(Recording Sheet)

Round 1	**Round 2**
Round 3	**Round 4**
Round 5	**Round 6**

Integer Cards

0	1	2	3	4
5	6	7	8	9
10	-1	-2	-3	-4
-5	-6	-7	-8	-9
-10	0	Wild	Wild	

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_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?*