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How to Use This Addenda

Make sure you're ready to teach by noting the **Necessary Materials and Pre-Lesson Prep** you will need to gather or complete prior to the lesson

Find high-leverage instructional moves in the **Lesson Look Fors**. This is what leaders

should see when observing your instruction

Note how your lesson objective ties to your state **Standards**

Plan purposeful questioning and responses using **Opportunities to CFU**

Plan to stress **Important Vocabulary** in the lesson. New vocab for the unit is indicated in bold

Note exemplar pacing in the **Lesson Agenda**

Use the **Mathematical Goal of the Lesson** to keep you focused on the appropriate student outcome

Plan instruction around what students need to Know & Do to be successful on the Exit Ticket using the identified **Student Criteria for Success**

Lesson 9: Find related multiplication facts by adding and subtracting equal groups in array models Date: _____

Standard(s)	Notes for Intellectual Preparation & Lesson Planning	Lesson Look Fors														
<p>3.4K solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts</p>	<p>Necessary Materials and Pre-Lesson Prep</p> <ul style="list-style-type: none"> (S) Multiply by 2 (1–5) Pattern Sheet (S) Personal white board (S) Three's array no fill template (S) Blank paper <p>Lesson Agenda</p> <table border="1"> <thead> <tr> <th></th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>I. Do Now (source: fluency #1)</td> <td>5 min</td> </tr> <tr> <td>II. Fluency*</td> <td>8 min</td> </tr> <tr> <td>III. Concept Development</td> <td>25 min</td> </tr> <tr> <td>IV. Student Practice</td> <td>15 min</td> </tr> <tr> <td>V. Student Debrief</td> <td>7 min</td> </tr> <tr> <td>VI. Exit Ticket*</td> <td>5 min</td> </tr> </tbody> </table> <p>Mathematical Goal of this Lesson Students learn they can use decomposition to break one larger number into two smaller numbers as a strategy for multiplication. The goal of this lesson is simply for student to understand how to interpret and create an array that demonstrates such decomposition. Students will build on this understanding in subsequent lessons. This lesson also supports the goal of student thinking in terms of counting units, an overarching goal for academy math.</p> <p>Opportunities to CFU</p> <ul style="list-style-type: none"> ✓ Concept Development, by way of eliciting student responses ✓ Problems Set problems: #2, #3 <p>Other Notes to Inform Your Planning For Do Now: Use the Multiply by 2 (1–5) Pattern Sheet for your Do Now. 3 minutes for completion, 2 minutes whole group classwork check. For Fluency: Complete the Group Counting activity (notice the inclusion of 4s in preparation for upcoming lessons) and Forms of Multiplication activity. For Concept Development: Consider prepping personal whiteboard in advance. Spend no more than 12 minutes for CD Problem 1 and 13 minutes for CD Prob 2. For Student Practice: consider creating an extra set of Qs like 1-3 in case students struggle with entry-level understanding. If they don't, move on to Qs 4 and above. For Student Debrief: consider using the Eureka assigned Exit Ticket for whole group debrief exercise; Suggested strategy – guided discourse. For Exit Ticket: Use Homework problems 2 & 3 for this lesson's Exit Ticket.</p> <p><i>Though not formally discussed yet, this is a foundation to understanding of distributive property. Students visually see multiplying the sum of two or more addends by a number will give the same result as multiplying each addend individually by the number and then adding the products together.</i></p>		Time	I. Do Now (source: fluency #1)	5 min	II. Fluency*	8 min	III. Concept Development	25 min	IV. Student Practice	15 min	V. Student Debrief	7 min	VI. Exit Ticket*	5 min	<p>Lesson Look Fors</p> <p>Look for teachers to...</p> <ul style="list-style-type: none"> □ Have established a signalling routine for choral response or work show during the respective fluency activities □ Use a think aloud to describe why they shade what portions of the array, or use a different symbol in the array □ Make the focus of the lesson understanding the visual representations <p>Look for students to...</p> <ul style="list-style-type: none"> □ Explain what they see in the array and how it relates to a given number sentence. <p>Student Criteria for Success</p> <ul style="list-style-type: none"> Shading, brackets, and/or dotted lines on an array will have mathematical significance -brackets can identify parts or wholes -dotted lines and shading represent decompositions We count units; in an array, counting rows is the same as counting units. Addition/subtraction and multiplication math facts (up to 4) Interpret an array -identify decompositions within an array -Relate an annotated or labeled array to one or more number sentences Addition/subtraction (+/- up to 4) Multiplication (2, 3, and 4)
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VI. Exit Ticket*	5 min															

Find recommended lesson modifications, content knowledge boosters, and/or high-leverage instructional moves that may not be in your Teacher Edition located in **Other Notes to Inform Your Planning**

UNIT SYNOPSIS

In Unit 6, students expand their understanding of algebraic expressions and equations by learning how inequalities represent a range of possible solutions rather than a single solution. They begin with writing and graphing one-step inequalities, contrasting equations and inequalities, and using number line models to show how solutions extend beyond a single point. Instruction emphasizes the difference between open and closed circles, with probing questions and real-world contexts helping students reason about whether a boundary point is included or excluded. Students then solve one-step inequalities with positive coefficients using inverse operations and graph their solutions, connecting back to prior learning of balancing equations. Next, they extend this work by exploring inequalities with negative coefficients, using a number line model to discover why multiplying or dividing by a negative value reverses the inequality sign. Teachers facilitate this discovery by encouraging productive struggle and guiding students to articulate the rule themselves.

The unit progresses into two-step inequalities, where students first use a balance beam model to visualize why eliminating the constant is the most efficient first step before moving into full algebraic methods. This visual model supports their reasoning about maintaining balance and prepares them to solve and graph inequalities more abstractly. Students then refine their algebraic skills with additional practice, including error analysis that highlights common misconceptions, such as forgetting to reverse the sign with negative coefficients or mishandling constants. Instruction requires them to justify each step in their reasoning, reinforcing conceptual understanding alongside procedural fluency. Finally, students apply their knowledge to real-world scenarios, writing inequalities to model situations, solving and graphing them, and explaining the meaning of the solution in context.

This unit is significant because it develops students' ability to solve and reason about inequalities both conceptually and procedurally. Core strategies include using number lines to visualize solution sets, employing balance models to connect equations to inequalities, applying inverse operations systematically, and engaging in error analysis to solidify understanding. Collectively, these strategies strengthen students' fluency and reasoning, laying the foundation for more advanced algebraic reasoning in Grade 8 and high school mathematics.

Topic A Overview – One-Step Inequalities

In Topic A, Lesson 1, students will write and graph inequalities. They will be introduced to the concept that a range of solutions, rather than one exact solution, exists in certain situations. Students will then learn the difference between equations and inequalities. In Lesson 2, students solve and graph one-step inequalities. In this lesson, they will only be exposed to one-step inequalities with positive coefficients. In Lesson 3, begin by using a number line to explore and contrast what happens when two values are multiplied by a positive factor and then a negative factor. Students will discover that when multiplying two numbers by a negative factor, the order of those numbers flips.

Lesson 1

Let's talk symbols!

$A < B$	$A > B$	$A \leq B$	$A \geq B$	$A = B$	Undefined Circle	Filled circle
A is less than B.	A is greater than B.	A is less than or equal to B.	A is greater than or equal to B.	A does not equal B.	$< >$	$\leq \geq$
					○	●

Use the correct symbol to make the inequality true.

- a) A is smaller than B. A \leftarrow B
- b) A is at least the size of B. A \geq B
- c) B is less than A. A $>$ B
- d) A is no more than B. A \leq B
- e) B is greater than or equal to A. A \leq B
- f) B is at least the size of A. A \leq B

Lesson 2

Inequality	What it is asking	Possible Solutions	Non-Solutions	Summary of Solutions	Graph
$5 + b \geq 2$	What #'s can be added to 5 to get an answer $\neq 10$?	-3, -2, -1, 0, 1, 2, 3...	-4, -5, -6, -7, -8, -9...	$b \geq -3$	
$10 \geq 2t$	What #'s can be multiplied by 2 to get less or equal to 10?	5, 4, 3, 2, 1...	6, 7, 8, 9, 10...	$5 \geq t$ or $t \leq 5$	
$\frac{y}{5} \leq 4$	What #'s can be divided by 5 to get less or equal to 4?	20, 19, 18, 17, 16...	20.1, 21, 22, 23, 24, 25...	$y \leq 20$	

Lesson 3

(c) What if we multiply -2 and -1 by -3? Compare using the inequality sign and the number line.

$6 \square 3$

* on the positive side of the number line 6 is greater than 3.

(d) Did multiplying by -3 have any impact on which number was bigger? Yes, the other number became greater.

(e) What happened to the position of the numbers on the number line?

Multiplying by -3 made both numbers become positive, so the numbers moved to the other side of the equal sign.

Topic B Overview – Two-Step Inequalities

In Topic B, Lesson 4 students to solve and graph two-step inequalities. In this lesson, students will use a balance beam model to show why it makes more sense to eliminate the constant. In Lesson 5, students to solve and graph two-step inequalities. This lesson is a continuation of the previous lesson and gives scholars more at-bats with solving and graphing two-step inequalities. In Lesson 6, students to write inequalities from real-world situations, solve, and graph them. This lesson ties the previous lessons in this unit.

Lesson 4

$-3x + 4 \leq -2$ $\frac{-4}{0} = \frac{-4}{0} \quad + \frac{2}{4}$ $\frac{-3x}{-3} = \frac{-6}{-3} \quad + \frac{2}{-3}$ $x \geq 2$	<p>Steps:</p> <ol style="list-style-type: none"> 1.) Eliminate the constant 2.) balance 3.) Eliminate the coefficient 4.) balance (sign flips) 5.) Graph Solutions
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Lesson 5

Student 1:

$$-5j + (-20) > -50$$

$$\frac{+20}{0} = \frac{+20}{-30}$$

$$\frac{-5j}{-5} = \frac{30}{-5}$$

$$1j < 6$$

(a) What did student 1 do incorrectly?
when they divided by -5, they did not flip the inequality sign

(c) What is the correct answer?

$$j < 6$$

Lesson 6

① Ian needs to save at least \$85.00 for a new pair of basketball shoes. He has \$25.00 in his piggy bank and can save \$12.00 from his allowance each week. How many weeks will Ian need to save to earn at least \$85.00?

Variable: w = weeks

Inequality: $25 + 12w \geq 85$

Solution: $w \geq 5$

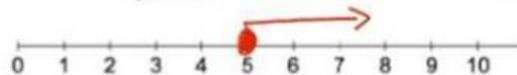
5 or more weeks

$$25 + 12w \geq 85$$

$$\frac{-25}{0} = \frac{-25}{60}$$

$$\frac{12w}{12} = \frac{60}{12} = 5$$

$$w \geq 5$$



CONTENT STANDARDS

Below are the standards addressed in this unit.

Readiness Standards	Supporting Standards
◆ 7.11A model and solve one-variable, two-step equations and inequalities	◆ 7.10(A) write one-variable, two-step equations and inequalities to represent constraints or conditions within problems ◆ 7.10(B) represent solutions for one-variable, two-step equations and inequalities on number lines ◆ 7.11(B) determine if the given value(s) make(s) one-variable, two-step equations and inequalities true

ROADMAP

AT A GLANCE: Unit 6 – Algebraic Inequalities				
Topic	Day	Date	Lesson	Lesson Title
Topic A One-Step Inequalities	1		1	Writing and Graphing Inequalities
	2		2	One-Step Inequalities with Positive Coefficient
	3		3	One-Step Inequalities with Positive and Negative Coefficients
Topic B Two-Step Inequalities	4		4	Two-Step Inequalities with Models and Algebraically
	5		5	Two-Step Inequalities Algebraically
	6		6	Real-World Applications of Inequalities

Standard(s)
 ◆ **7.10(B)** represent solutions for one-variable, two-step equations and inequalities on number lines

Notes for Intellectual Preparation & Lesson Planning

Necessary Materials and Pre-Lesson Prep

- Document Camera
- Projector
- Unit 6 Workbook

Lesson Agenda

	Time
I. Do Now	5 min
II. INM/Concept Development	25 min
III. Student Practice	16 min
IV. Student Debrief	5 min
V. Exit Ticket	5 min

Mathematical Goal of this Lesson
 The primary goal of this lesson is for students to write and graph inequalities. They will be introduced to the concept that a range of solutions, rather than one exact solution, exists in certain situations. Students will then learn the difference between equations and inequalities.

Opportunities to CFU

- ✓ INM: Part B; #1, 4, 5
- ✓ Student Practice: #7,8

Other Notes to Inform Your Planning
 For **Do Now**: The Do Now is a Must Do, without it, the beginning of the INM will not be as rich
 For **INM**: Prepare to address misconceptions around terms such as ‘at least’. Students may not understand that this means (i.e., at least \$7.00) \$7.00 or more. They may also confuse ‘less’ and ‘at least’. It will also be important to model graphing with terms such as ‘greater than or equal to’ or ‘less than or equal to’ as a closed circle and ‘greater than/less than’ as a closed circle. Consider creating an anchor chart that models the graph for these scenarios. See the snip under Topic A, Lesson 1 for an examples. Stamp for students **WHY** a circle would be closed (it includes a given value) and **WHY** (it excludes a given value) a circle would be open.
 For **Student Practice**: This portion is 16 minutes, consider pulling students who struggle in a small group and providing an answer key halfway through the student practice for those that are working independently.

Lesson Look Fors

Look for teachers to...

- Ask probing questions to uncover common mistakes or misconceptions around open/closed circles.

Look for students to...

- Explain the difference between an equation and an inequality. Ask: “What is the difference between an inequality and an equation?” (An equation has one solution, and an inequality has a range of possible solutions.)

Important Vocabulary

- Closed Point
- Inequality
- Open Point
- <: Less than
- >: Greater than
- ≤: Less than or equal to
- ≥: Greater than or equal to

Focus on Disciplinary Literacy

Do Now: #1a-c, Part B #1-5
SP: #7, 8

Student Know/Do Chart

-  Inequalities include a range of possible answers rather than just one possible answer
-  The graph of an inequality shows all possible solutions
-  An open circle on the graph of an inequality means that number is not a possible solution, while a closed circle indicates that number is a possible solution
-  Write an inequality to represent a real-world situation
-  Graph an inequality to represent an algebraic inequality or a real-world situation

Lesson 2: One-Step Inequalities with Positive Coefficients		Date: _____												
Standard(s)	Notes for Intellectual Preparation & Lesson Planning	Lesson Look Fors												
<p>◆ 7.11A model and solve one-variable, two-step equations and inequalities</p>	<p>Necessary Materials and Pre-Lesson Prep</p> <ul style="list-style-type: none"> ▪ Document Camera ▪ Projector ▪ Unit 6 Student Workbook <p>Lesson Agenda</p> <table border="1"> <thead> <tr> <th></th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>I. Do Now</td> <td>5 min</td> </tr> <tr> <td>II. INM/Concept Development</td> <td>25 min</td> </tr> <tr> <td>III. Student Practice</td> <td>30 min</td> </tr> <tr> <td>IV. Student Debrief</td> <td>5 min</td> </tr> <tr> <td>V. Exit Ticket</td> <td>5 min</td> </tr> </tbody> </table> <p>Mathematical Goal of this Lesson The primary goal of this lesson is for students to solve and graph one-step inequalities. In this lesson, they will only be exposed to one-step inequalities with positive coefficients.</p> <p>Opportunities to CFU</p> <ul style="list-style-type: none"> ✓ INM: Part A: #3-6 Part B: #2-6 ✓ Student Practice: Part A: #1-3 Part B: #4, 5, 9, 10, 11 <p>Other Notes to Inform Your Planning For Do Now: The Do Now is necessary to assess student on inverse operations. This skill is necessary to be able to solve inequalities. For INM: For the first two examples, closely guide students then release them to practice the rest with partners. If an anchor chart was created, encourage students to use it as they are working in partners. For Student Practice: This portion is 30 minutes, consider pulling into a small group, students who struggle with using inverse operation to solve and/or graph an inequality. Provide an answer key halfway through the student practice for those that are working independently. Continue to encourage students to use the anchor chart to support them as they work through the student practice.</p>		Time	I. Do Now	5 min	II. INM/Concept Development	25 min	III. Student Practice	30 min	IV. Student Debrief	5 min	V. Exit Ticket	5 min	<p>Look for teachers to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use students' prior knowledge of isolating variables and balancing equations to build an understanding of solving one-step inequalities. <input type="checkbox"/> Create an anchor chart to support student understanding as they are working independently <p>Look for students to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Explain the meaning of their solutions Ask: "What does the solution of your inequality tell you?" (All of the possible values of the variable)
		Time												
I. Do Now	5 min													
II. INM/Concept Development	25 min													
III. Student Practice	30 min													
IV. Student Debrief	5 min													
V. Exit Ticket	5 min													
<p>Important Vocabulary</p> <ul style="list-style-type: none"> ▪ Closed Point ▪ Coefficient ▪ Constant ▪ Inequality ▪ Inverse Operation ▪ Open Point ▪ Non-solution ▪ Solution ▪ Variable 	<p>Focus on Disciplinary Literacy</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">  <p>Do Now: #1,2 INM: Part A, #1-3, Part B, #1-3 SP: #4-6</p> </div>	<p>Student Know/Do Chart</p> <p> To solve for a variable, it is necessary to make the constant zero and the coefficient 1 using inverse operations.</p> <p> It is necessary to keep an inequality balanced by performing the same operation on both sides of the inequality sign.</p> <p> Solve one-step inequalities with only positive coefficients</p> <p> Graph the solution of an inequality on a number line Determine whether a value would be a solution or a non-solution to an inequality.</p>												

Lesson 3: One-Step Inequalities with Positive and Negative Coefficients		Date: _____												
Standard(s)	Notes for Intellectual Preparation & Lesson Planning	Lesson Look Fors												
<p>◆ 7.11A model and solve one-variable, two-step equations and inequalities</p>	<p>Necessary Materials and Pre-Lesson Prep</p> <ul style="list-style-type: none"> ▪ Document Camera ▪ Projector ▪ Unit 6 Student Workbook <p>Lesson Agenda</p> <table border="1"> <thead> <tr> <th></th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>I. Do Now</td> <td>5 min</td> </tr> <tr> <td>II. INM/Concept Development</td> <td>40 min</td> </tr> <tr> <td>III. Student Practice</td> <td>15 min</td> </tr> <tr> <td>IV. Student Debrief</td> <td>5 min</td> </tr> <tr> <td>V. Exit Ticket</td> <td>5 min</td> </tr> </tbody> </table> <p>Mathematical Goal of this Lesson</p> <p>The primary goal of this lesson is for students to solve and graph one-step inequalities. They will begin by using a number line to explore and contrast what happens when two values are multiplied by a positive factor and then a negative factor. Students will discover that when multiplying two numbers by a negative factor, the order of those numbers flip.</p>		Time	I. Do Now	5 min	II. INM/Concept Development	40 min	III. Student Practice	15 min	IV. Student Debrief	5 min	V. Exit Ticket	5 min	<p>Look for teachers to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Ask guiding questions and allow students to do the heavy cognitive lifting when discovering the rule for multiplying and dividing by negative numbers. Teachers should be allowing productive struggle <p>Look for students to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Derive the rule for multiplying and dividing by negative numbers when solving an inequality
		Time												
I. Do Now	5 min													
II. INM/Concept Development	40 min													
III. Student Practice	15 min													
IV. Student Debrief	5 min													
V. Exit Ticket	5 min													
<p>Important Vocabulary</p> <ul style="list-style-type: none"> ▪ Closed Point ▪ Coefficient ▪ Constant ▪ Inequality ▪ Inverse Operation ▪ Open Point ▪ Non-solution ▪ Solution ▪ Variable 	<p>Opportunities to CFU</p> <ul style="list-style-type: none"> ✓ INM: #1c-e, #2d-e, Part B; #3-5 ✓ Student Practice: #2, 4, 5 <p>Other Notes to Inform Your Planning</p> <p>For INM/Student Practice: The INM allows students to discover what happens on a number line when a value is multiplied or divided by a negative value. It is important that students gain a conceptual understanding of this concept as a common misconception is that students forget to flip the inequality sign. Consider allowing students to create a foldable to reference as they are working through the INM/Student Practice. Alternatively, an anchor chart for students to reference will support this understanding throughout the INM and Student Practice.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Focus on Disciplinary Literacy</p>  <p>Do Now: #1a-b, Part B #1-5 INM: #1a-e, 6, 7 SP: #5-6</p> </div>	<p>Student Know/Do Chart</p> <ul style="list-style-type: none">  Multiplying or dividing any number by a negative value will move that number to the other side of the number line/change the sign of that number.  When numbers move to the other side of the number line, the opposite number becomes the bigger number. (For Example: $2 > 1$ but $-2 < -1$)  Solve one-step inequalities with positive and negative coefficients and reverse the inequality sign when the coefficient is negative.  Graph the answer to their inequality on a number line.  Determine whether a number would be a solution or a non-solution to the inequality. 												

Lesson 4: Two-Step Inequalities with Models and Algebraically		Date: _____												
Standard(s)	Notes for Intellectual Preparation & Lesson Planning	Lesson Look Fors												
<p>◆ 7.11A model and solve one-variable, two-step equations and inequalities</p>	<p>Necessary Materials and Pre-Lesson Prep</p> <ul style="list-style-type: none"> Document Camera Projector Unit 6 Workbook <p>Lesson Agenda</p> <table border="1"> <thead> <tr> <th></th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>I. Do Now</td> <td>5 min</td> </tr> <tr> <td>II. INM/Concept Development</td> <td>27 min</td> </tr> <tr> <td>III. Student Practice</td> <td>28 min</td> </tr> <tr> <td>IV. Student Debrief</td> <td>5 min</td> </tr> <tr> <td>V. Exit Ticket</td> <td>5 min</td> </tr> </tbody> </table> <p>Mathematical Goal of this Lesson The primary goal of this lesson is for students to solve and graph two-step inequalities. In this lesson, students will use a balance beam model to show why it makes more sense to eliminate the constant. They will use these models to find possible solutions, non-solutions, solutions summary, and a graph of the solutions.</p> <p>Opportunities to CFU</p> <ul style="list-style-type: none"> ✓ INM: Part B: #2, 3, 4, 6 ✓ Student Practice: #3, 4, 5 		Time	I. Do Now	5 min	II. INM/Concept Development	27 min	III. Student Practice	28 min	IV. Student Debrief	5 min	V. Exit Ticket	5 min	<p>Look for teachers to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Connect this concept to what students learned about equations in unit two. <p>Look for students to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solve inequalities using inverse operations <input type="checkbox"/> Justify why those operations help them isolate the variable.
		Time												
I. Do Now	5 min													
II. INM/Concept Development	27 min													
III. Student Practice	28 min													
IV. Student Debrief	5 min													
V. Exit Ticket	5 min													
<p>Important Vocabulary</p> <ul style="list-style-type: none"> Closed Point Coefficient Constant Inequality Inverse Operation Open Point Non-solution Solution Variable 	<p>Other Notes to Inform Your Planning</p> <p>For INM/Student Practice: During the INM it will be important to stamp for students that it makes sense to remove the constant as a first step rather than removing the variable. As always, to anchor this lesson, consider creating an anchor chart that lists the steps to support their understanding as they work through the INM/Student Practice. Students may become confused with the algebra tiles if this happens. Model using the digital resource linked here.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Focus on Disciplinary Literacy</p>  <p>INM: Part B, #1-3</p> </div>	<p>Student Know/Do Chart</p> <p> To solve for a variable, it is necessary to make the constant zero and the coefficient 1 using inverse operations</p> <p> You must keep your inequality balanced by performing the same operations on both sides of the inequality sign</p> <p> Solve two-step inequalities using models and algebraically</p> <p> Graph the answer to their inequality on a number line.</p> <p> Determine whether a number would be a solution or a non-solution to the inequality.</p>												

Lesson 5: Two-Step Inequalities Algebraically		Date: _____												
Standard(s)	Notes for Intellectual Preparation & Lesson Planning	Lesson Look Fors												
<p>◆ 7.10(B) represent solutions for one-variable, two-step equations and inequalities on number lines</p> <p>◆ 7.11A model and solve one-variable, two-step equations and inequalities</p>	<p>Necessary Materials and Pre-Lesson Prep</p> <ul style="list-style-type: none"> ▪ Document Camera ▪ Projector ▪ Unit 6 Workbook <p>Lesson Agenda</p> <table border="1"> <thead> <tr> <th></th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>I. Do Now</td> <td>8 min</td> </tr> <tr> <td>II. INM/Concept Development</td> <td>25 min</td> </tr> <tr> <td>III. Student Practice</td> <td>30 min</td> </tr> <tr> <td>IV. Student Debrief</td> <td>5 min</td> </tr> <tr> <td>V. Exit Ticket</td> <td>5 min</td> </tr> </tbody> </table> <p>Mathematical Goal of this Lesson The primary goal of this lesson is for students to solve and graph two-step inequalities. This lesson is a continuation of the previous lesson and gives scholars more at-bats with solving and graphing two-step inequalities. Students will use error analysis to highlight common misconceptions students have when solving inequalities</p> <p>Opportunities to CFU</p> <ul style="list-style-type: none"> ✓ INM: #1a-c, #2a-c ✓ Student Practice: A, I, T, #4, #3, #13 		Time	I. Do Now	8 min	II. INM/Concept Development	25 min	III. Student Practice	30 min	IV. Student Debrief	5 min	V. Exit Ticket	5 min	<p>Look for teachers to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Always model the constant becoming zero and the coefficient becoming 1 when solving an inequality. (Teachers should not just be crossing off/canceling out numbers) <input type="checkbox"/> Allow students to do the heavy lift with the error analysis in the INM <p>Look for students to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Justify each step necessary when solving a two-step inequality using their conceptual understanding of isolating variables and balancing inequalities <input type="checkbox"/> In the error analysis explicitly explain why a student may be correct and incorrect in the steps to solve an inequality
		Time												
I. Do Now	8 min													
II. INM/Concept Development	25 min													
III. Student Practice	30 min													
IV. Student Debrief	5 min													
V. Exit Ticket	5 min													
<p>Important Vocabulary</p> <ul style="list-style-type: none"> ▪ Closed Point ▪ Coefficient ▪ Constant ▪ Inequality ▪ Inverse Operation ▪ Open Point ▪ Non-solution ▪ Solution ▪ Variable 	<p>Other Notes to Inform Your Planning</p> <p>For Do Now: The Do Now is a Must Do, it allows you to gauge how much students retained from the previous lesson and where their misconceptions lie. This will help you know what to emphasize in today's lesson.</p> <p>For INM: PUNCH-when multiplying or dividing by a negative number to solve an inequality, flip the inequality symbol. If necessary, review WHY this is the case by recalling the previous lesson.</p> <p>For Student Debrief: The student debrief is a Must Do following this lesson. It helps students reflect on common misconceptions to avoid.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center; background-color: #FFD700; margin: 0;">Focus on Disciplinary Literacy</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 10px;"> <p>INM: #1, 2(a-c)</p> </div> </div> </div>	<p>Student Know/Do Chart</p> <ul style="list-style-type: none">  To solve for a variable, you need to make the constant zero and the coefficient 1 using inverse operations  You must keep your inequality balanced by performing the same operations on both sides of the inequality sign  Solve two-step inequalities algebraically  Solve two-step inequalities algebraically  Determine whether a number would be a solution or a non-solution to the inequality. 												

Lesson 6: Inequalities Real-World Application		Date: _____												
Standard(s)	Notes for Intellectual Preparation & Lesson Planning	Lesson Look Fors												
<p>◆ 7.10(B) represent solutions for one-variable, two-step equations and inequalities on number lines</p>	<p>Necessary Materials and Pre-Lesson Prep</p> <ul style="list-style-type: none"> Document Camera Projector Unit 6 Workbook <p>Lesson Agenda</p> <table border="1"> <thead> <tr> <th></th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>I. Do Now</td> <td>5 min</td> </tr> <tr> <td>II. INM/Concept Development</td> <td>25 min</td> </tr> <tr> <td>III. Student Practice</td> <td>23 min</td> </tr> <tr> <td>IV. Student Debrief</td> <td>5 min</td> </tr> <tr> <td>V. Exit Ticket</td> <td>5 min</td> </tr> </tbody> </table> <p>Mathematical Goal of this Lesson</p> <p>The primary goal of this lesson is for students to write inequalities from real-world situations, solve, and graph them. This lesson ties together the previous lessons in this unit.</p> <p>Opportunities to CFU</p> <ul style="list-style-type: none"> ✓ INM: #2-6 ✓ Student Practice: #1, 2 		Time	I. Do Now	5 min	II. INM/Concept Development	25 min	III. Student Practice	23 min	IV. Student Debrief	5 min	V. Exit Ticket	5 min	<p>Look for teachers to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Allow students to collaborate and explore these real-world problems without giving them step-by-step procedures for answering the questions. <p>Look for students to...</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use critical thinking and mathematical reasoning when going from a real-world situation to an algebraic inequality.
		Time												
I. Do Now	5 min													
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III. Student Practice	23 min													
IV. Student Debrief	5 min													
V. Exit Ticket	5 min													
<p>Important Vocabulary</p> <ul style="list-style-type: none"> Closed Point Coefficient Constant Inequality Inverse Operation Open Point Non-solution Solution Variable 	<p>Other Notes to Inform Your Planning</p> <p>For INM: In this lesson you are gradually releasing responsibility to students. You will do a think aloud for #1. If needed, you can also do a think aloud for #2, but students should be working in partners. If students aren't seated in partners, consider using popsicle sticks to pull/pick partners. You may decide, during internalization to choose students who work well together.</p> <p>For Student Debrief: The Student Debrief is a Must Do, it stamps and makes sticky for students, the steps to solving an inequality.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center; background-color: #FFD700; margin: 0;">Focus on Disciplinary Literacy</p> <div style="display: flex; align-items: center; justify-content: center;">  <div> <p>INM: #1-3</p> <p>SP: #1-3</p> </div> </div> </div>	<p>Student Know/Do Chart</p> <p> To solve for a variable, it is necessary to make the constant zero and the coefficient 1 using inverse operations</p> <p> To solve for a variable, you need to make the constant zero and the coefficient 1 using inverse operations on both sides of the inequality sign</p> <p> Write a two-step inequality to represent a real-world situation</p> <p> Solve two-step inequalities</p> <p> Graph the answer to their inequality on a number line.</p> <p> Determine whether a number would be a solution or a non-solution to the inequality</p>												

Recommended Success Day Materials and Resources

7.11A Algebraic Inequalities

7.11A Virtual Nerd Video
7.11A Practice
Tech-enhanced Practice
Extra Practice SE
Extra Practice TE

Notes to Inform Your Planning

These resources can be used for either small-group or whole-group reteach.

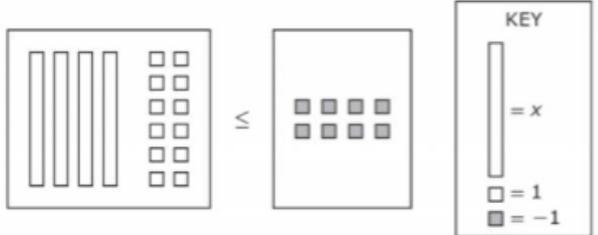
If student data indicates a pause point is not necessary, you can opt to move forward and reserve a Success Day to use at a later date.

Using exit ticket data can help you prioritize what to review. For example, if you remember that students did poorly on Lesson 9, pull problems from lesson 6, especially if they are problems students did not do before (for example, SP or INM problems you skipped during class). You can also take questions from the resources linked above.

All unit exams should be given online to prepare students for STAAR online.

UNPACKED STANDARDS

Focus standards for this unit.

Standard Breakdown		
Standard	Specificity	STAAR Alignment
<p>7.11(A) model and solve one-variable, two-step equations and inequalities</p>	<p>Concepts:</p> <ul style="list-style-type: none"> - Inequalities - One Variable - Two-Step <p>Skills:</p> <ul style="list-style-type: none"> - Model - Solve <p>Limitations:</p> <ul style="list-style-type: none"> • Limited to one variable • Limited to two-step inequalities <p>Clarifications:</p> <ul style="list-style-type: none"> • The coefficients and constants can include any positive rational numbers 	<p>What is the solution set for the inequality $4 - 5g > 39$?</p> <p>F $g > -7$</p> <p>G $g < -7$</p> <p>H $g < 7$</p> <p>J $g > 7$</p> <p>The model represents an inequality.</p>  <p>What is the solution set for the inequality?</p> <p>F $x \leq -5$</p> <p>G $x \leq 5$</p> <p>H $x \leq 1$</p> <p>J $x \leq -14$</p>

VERTICAL STANDARDS

This section details the **progression** of key student expectations/standards** in the courses **before** and **after** this course. This will help you understand what **prior knowledge skills to build upon** and guide you in knowing what **skills you are preparing your students** for in the subsequent course.

5 th Grade	6 th Grade	8 th Grade/ Algebra 1
<p>3(K) add and subtract positive rational numbers fluently</p> <p>5.4(F) simplify numerical expressions that do not involve exponents, including up to two levels of grouping</p> <p>5.4(F) simplify numerical expressions that do not involve exponents, including up to two levels of grouping</p>	<p>6.3(D) add, subtract, multiply, and divide integers fluently</p> <p>6.3(A) recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values</p> <p>6.7(D) generate equivalent expressions using the properties of operations: inverse, identity, commutative & distributive properties</p> <p>6.10(A) model & solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts</p> <p>6.9(A) write one-variable, one-step equations and inequalities to represent constraints or conditions within problems</p> <p>6.9(B) represent solutions for one-variable, one-step equations and inequalities on # lines</p> <p>6.9(C) write corresponding real-world problems given one-variable, one-step equations or inequalities</p> <p>6.10(B) determine if the given value(s) make(s) one-variable, one-step equations or inequalities true</p> <p>6.7(A) generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization</p>	<p>8.8(C) model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants</p> <p>A.5(A) solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides</p> <p>A.5(C) solve systems of two linear equations with two variables for mathematical and real-world problems</p> <p>A.10(E) factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$, including perfect square trinomials of degree two</p> <p>8.8(A) write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants</p> <p>8.8(B) write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants</p> <p>A.12(E) solve mathematic and scientific formulas, and other literal equations, for a specified variable</p>