

learning focus:

- ✓ model, write, and solve one-step equations and inequalities
- ✓ determine if a given value makes an equation or inequality true
- ✓ represent solutions for equations and inequalities on a number line

EQUATIONS & INEQUALITIES UNIT

12 DAY TEKS-ALIGNED UNIT

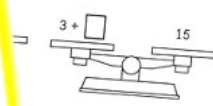


EQUATIONS AND INEQUALITIES UNIT

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ADDITION & SUBTRACTION I



ing value, or variable.
on one side
operations.
our answer back into the

KEY

EQUATIONS AND INEQUALITIES PACING GUIDE

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
One-Step Equations: Addition and Subtraction I	One-Step Equations: Addition and Subtraction II	One-Step Equations Application	One-Step Equations: Multiplication and Division I	One-Step Equations: Multiplication and Division II
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Student Handout 6 Homework 6	Student Handout 7 Homework 7	Student Handout 8 Homework 8	Student Handout 9 Homework 9	Student Handout 10 Homework 10
DAY 11	DAY 12	DAY 13	DAY 14	DAY 15
Equations and Inequalities Unit Study Guide	Equations and Inequalities Unit Study Guide	Equations and Inequalities Unit Study Guide	Equations and Inequalities Unit Study Guide	Equations and Inequalities Unit Study Guide

A MANEUVERING THE MIDDLE® RESOURCE

EQUATIONS & INEQUALITIES



a 12 day TEKS-aligned unit

TEKS: 6.9A, 6.9B, 6.9C, 6.10A, 6.10B

**ready-to-go, scaffolded
student materials**

EQUATIONS AND INEQUALITIES UNIT

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EQUATIONS & INEQUALITIES



a 12 day TEKS-aligned unit

TEKS: 6.9A, 6.9B, 6.9C, 6.10A, 6.10B

student friendly + real-world
application

use of grade
level modeling

Unit: Equations & Inequalities
Student Handout 8

Name _____
Date _____ Pd _____

SOLVING INEQUALITIES

- Inequalities can be solved by following the same steps as equations.
- The _____ must be alone or _____ on one side of the inequality.
- Isolate the operations
- Whatever
- When you multiply sign is _____

Solve each inequality, check your answer,

1. $n + 5 \leq 16$ **CHECK & GRAPH**

3. $12g < -48$ **CHECK & GRAPH**

5. $4a > 9$ **CHECK & GRAPH**

Solve the inequalities below for practice. Roll a pair of dice and find the sum of the two numbers showing. Solve that problem.

	SOLVE	SOLUTION
2	$-7x \geq 35$	
3	$x + 6.8 < 11.2$	
4	$x - 5 > 16.7$	
5	$x + 14 \leq 16$	
6	$8 \geq x - 3$	
7	$7 \leq 2x$	
8	$\frac{x}{-8} > 3$	
9	$\frac{x}{2} < 3.5$	
10	$18 < x + 11$	
11	$-6x \geq 108$	
12	$x - 7 \leq -15$	

SHOW WORK HERE:

Use your understanding of solving inequalities to answer the questions below.

7. Kevin was asked to place a check mark next to the statement. Check over his work and correct it.

QUESTION #1 ☒ $-25 < 5x$

QUESTION #2 ☒ $x - 10 \leq 15$

8. Each of the students below made a statement. Check over his work and correct it.

CASSIE
To solve you will need to flip the inequality symbol.

Summarize today's lesson:

Unit: Equations & Inequalities
Homework 8

Name _____
Date _____ Pd _____

SOLVING INEQUALITIES

Solve the following one-step inequalities, check your work, and graph the solution.

1. $-3x < 54$ **CHECK:**

2. $\frac{x}{4} \geq 11$ **CHECK:**

3. $x - 7 > 29$ **CHECK:**

Use your understanding of inequalities to answer the questions below.

4. Which inequality is true when $x = 4$?

A. $x + 5 \leq 3$ B. $9x > 36$ C. $\frac{x}{2} < 3$ D. $18 \leq x - 8$

5. Jasmine solves the equation $15x > 120$. Which number line below represents the solution set?

A. B. C. D.

6. The number line below represents the solution set to which inequality?

A. $16 + x < 23$ B. $5x \geq 35$
C. $x - 11 \leq -4$ D. $\frac{x}{2} > 3.5$

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skill application

EQUATIONS & INEQUALITIES



a 12 day TEKS-aligned unit

TEKS: 6.9A, 6.9B, 6.9C, 6.10A, 6.10B

streamline your planning
process with unit overviews

EQUATIONS AND INEQUALITIES OVERVIEW



READINESS

6.10A Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

SUPPORTING

6.9A Write one-variable, one-step equations and inequalities to represent constraints or conditions within problems.

6.9B Represent solutions for one-variable, one-step equations and inequalities on number lines.

6.9C Write corresponding real-world problems given one-variable, one-step equations or inequalities.

6.10B Determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.



key vocabulary



vertical alignment



sample
pacing
calendar

TEACHING IDEAS

- Equations are two mathematical statements.
- An inequality represents two mathematical statements.
- An inequality has infinitely many solutions.
- An equation has one solution.

ESSENTIAL QUESTION

- What process can you use to solve a one-step equation or inequality?
- How does a graph on a number line represent the solution to a one-step equation or inequality?
- What patterns do you notice in the solutions to one-step equations or inequalities?

EQUATIONS AND INEQUALITIES PACING GUIDE



DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
One-Step Equations: Addition and Subtraction I	One-Step Equations: Addition and Subtraction II	One-Step Equations: Application I	One-Step Equations: Multiplication and Division I	One-Step Equations: Multiplication and Division II
Student Handout 1 Homework 2	Student Handout 2 Homework 2	Student Handout 3 Homework 3	Student Handout 4	Student Handout 5
DAY 6	DAY 7	DAY 8	DAY 9	DAY 10
One-Step Equations: Application II	One-Step Equations: Quiz	One-Step Equations: Application III	One-Step Equations: Application IV	One-Step Equations: Application V
Student Handout 6 Homework 6 Mini-Quiz 2	Quiz 1	Student Handout 7 Homework 7	Student Handout 8 Homework 8	Student Handout 9 Homework 9
DAY 11	DAY 12	DAY 13	DAY 14	DAY 15
Equations and Inequalities Unit Study Guide	Equations and Inequalities Unit Test	Equations and Inequalities Application VI	Equations and Inequalities Application VII	Equations and Inequalities Application VIII
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EQUATIONS AND INEQUALITIES OVERVIEW



TOPIC	TEACHING TIPS
One-Step Equations	<ul style="list-style-type: none">• Start by displaying a very long and complex equation on the board. Explain that today you are setting the foundation for these types of equations. Then, require students to show their steps as they solve.• These lessons have been broken up purposefully so that you can scaffold the concept and process of solving an equation before including integer operations and positive rational numbers. Day one focuses on whole numbers with an emphasis on conceptual understanding using models. Day two focuses on incorporating the more challenging mathematical calculations.• Whiteboard races, markers, and graffiti activities are all great ideas to spice up practice. Search www.maneuveringthemiddle.com for the post called "Turn Any Worksheet into an Activity" for more details and ideas.• If you choose to use algebra tiles as a model, then make sure that students understand the concept of zero pairs.
One-Step Inequalities	<ul style="list-style-type: none">• Typically, inequalities are more difficult because of the vocabulary required. Though it is helpful for them to use a chart or notes, it can be beneficial to have them think about the context of the problem using these three questions:<ol style="list-style-type: none">1. Can it be equal to the value?2. Can it be more than the value?3. Can it be less than the value?• It is also always helpful to relate it back to something they are very comfortable with (e.g. money, grades).• For additional practice, consider incorporating the Desmos activity, "Inequalities on the Number Line".
Graphing Inequalities	<ul style="list-style-type: none">• Once a student has graphed their solution, encourage them to test a number on the number line that is included. Practice substituting a number back into the inequality.• I always encouraged students to rewrite the inequality so that the variable is on the left. This way, the inequality symbol will point the same direction when graphing.

teaching
ideas



EQUATIONS & INEQUALITIES



a 12 day TEKS-aligned unit

TEKS: 6.9A, 6.9B, 6.9C, 6.10A, 6.10B

unit study guide + assessments



quizzes



editable unit test

Unit: Equations & Inequalities
Quiz 1

Name _____
Date _____ Pd _____

QUIZ: ONE-STEP EQUATIONS

Solve the equations below. Be sure to check your work.

1. $x + 18 = -23$ 2. $x + 9.5 = 35$

Answers

1. _____
2. _____
3. _____
4. _____

Unit: Equations & Inequalities
Review

Name _____
Date _____ Pd _____

EQUATIONS & INEQUALITIES UNIT STUDY GUIDE

Solve each of the problems below. These represent the types of questions on your test. Be sure to ask questions if you need more help with a topic.

I CAN DETERMINE IF A VALUE MAKES AN EQUATION OR AN INEQUALITY TRUE. 6.10D

1. $6x = 108$, if $x = 18$ 2. _____

I CAN SOLVE EQUATIONS.

4. $2.1x = 23.1$ 5. _____

7. $x - 10.6 = 16.9$ 8. _____

10. $\frac{x}{8} = 14$

SIXTH GRADE CURRICULUM

**EQUATIONS
AND INEQUALITIES**

UNIT SEVEN: ANSWER KEYS

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answer keys
included

