STEMscopes TEXAS MATH
POWERED BY ACCELERATE LEARNING

Grade 7

Lesson Sample

Content Review

Built for Texas Math

Table of Contents

A Math Program for Texas Educators

GUIDED LESSON TOUR

Welcome to Your Lesson Sample

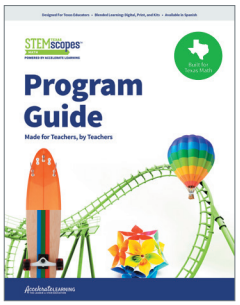
The following pages feature resources that mirror what teachers and students can access digitally. Each section includes clear navigation steps that seamlessly guide you through the content online, ensuring quick and easy access. Look for red circle callouts in the top left corner, which correspond directly to the titles of online documents.

Our lessons are also referred to as Scopes online. Scopes are built on a solid foundation of proven educational strategies, featuring a wealth of resources and materials fully aligned to the TEKS.

From our online platform, you can:

- Personalize your experience by bookmarking your favorite elements, crafting lesson plans, and effortlessly managing your students and classes.
- Access detailed preparation instructions, facilitation prompts, discussion questions, and sample student answers, providing everything you need for successful hands-on learning.
- Preview assignments from the student's view.
- Assign activities and assignments to students digitally, grade submissions, and provide feedback seamlessly within our user-friendly interface.
- Download and print files for added flexibility!

Explore the STEMscopes Texas Math Program Guide for a deeper dive into our lesson design and comprehensive program details.



Log In and Review!

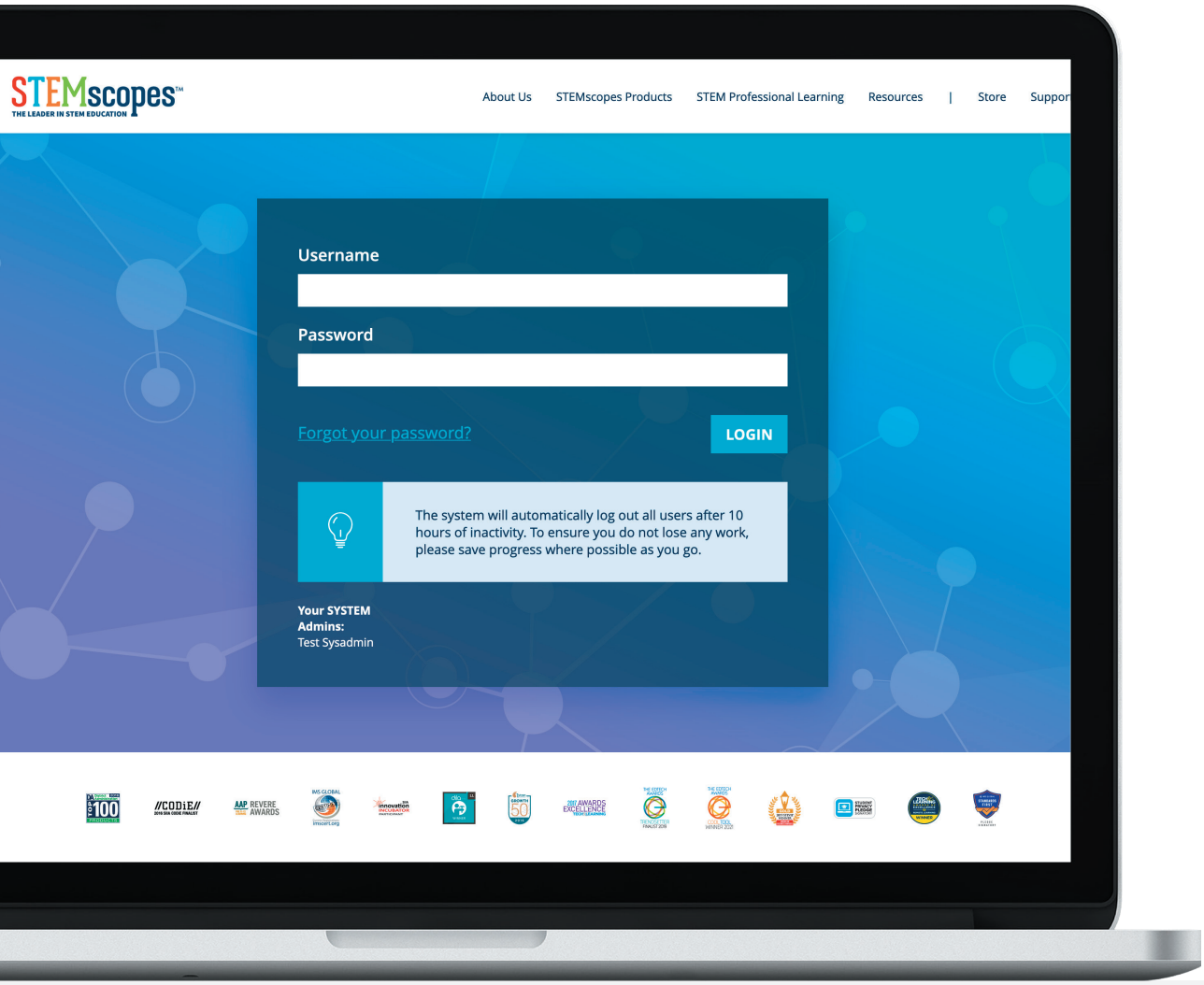
The entire STEMscopes Texas Math curriculum is online.

Use the **navigation steps** to follow along online and explore all that STEMscopes Texas Math offers educators and students.

Access our full curriculum online in two easy ways:

1. Log in using your district's unique review URL and credentials.
2. Sign up at ***accelerateLearning.com/math/tx***.

All student digital and print resources are available in English and Spanish.



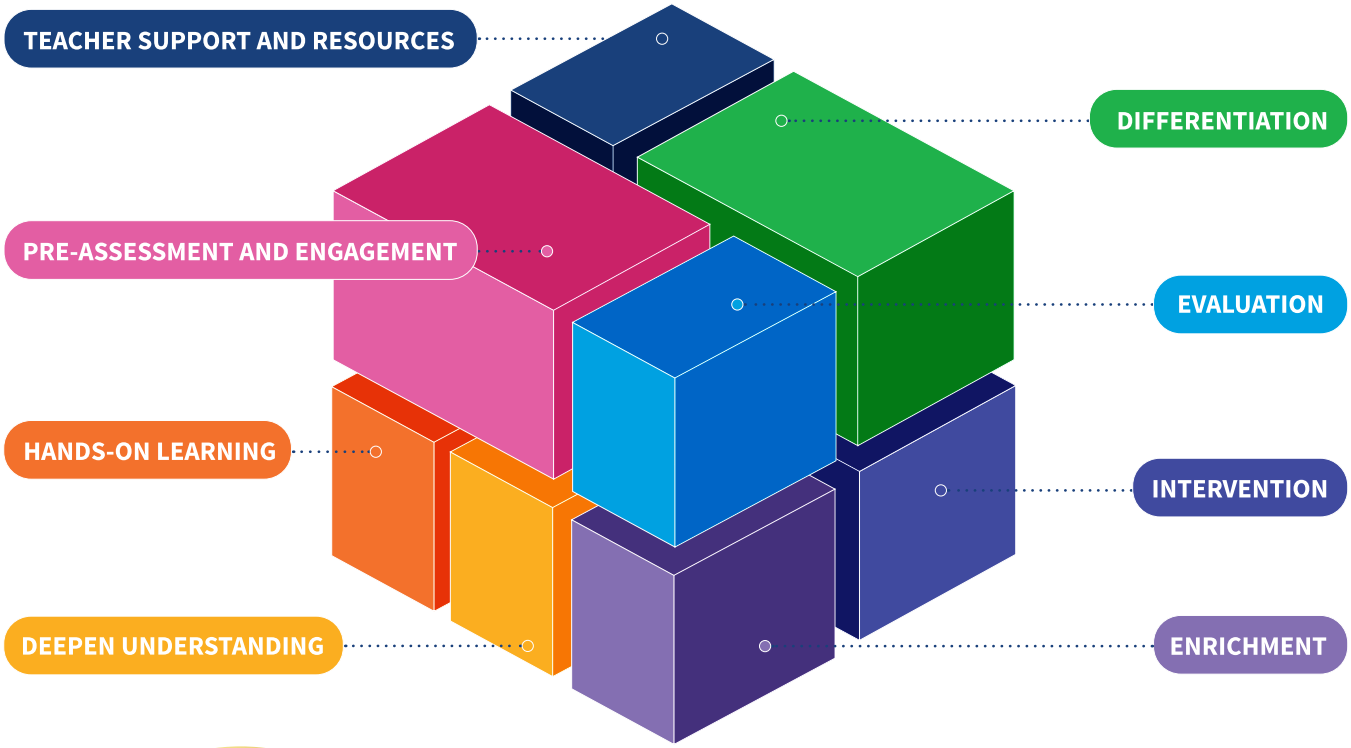
AccelerateLEARNING
THE LEADER in STEM EDUCATION

Lesson Design

A Comprehensive Math Solution

Each lesson is intentionally designed to provide teachers and students with everything they need for engaging and meaningful math instruction and learning.

Everything You Need, All In One Place



Grade 7 Lessons

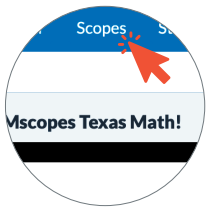
LESSON	TEKS
Rational Numbers	7.2A, 7.3A, 7.3B
Proportional Relationships	7.4A, 7.4B, 7.4C, 7.4E
Ratios, Rates, and Percents	7.4D, 7.13A, 7.13E, 7.13F
Non-Proportional Relationships	7.7A
Two-Step Equations and Inequalities	**7.10A, 7.10B, 7.10C, 7.11A, 7.11B**
Circles	7.10A, 7.10B, 7.10C, 7.11A, 7.11B
Similar Figures	7.5A, 7.5C
Angle Relationships	7.11C
Circles	7.5B, 7.8C, 7.9B
Area	7.9C, 7.9D
Volume	7.8A, 7.8B, 7.9A
Determine Probability	7.6A, 7.6B, 7.6E, 7.6I
Predictions with Probability	7.6C, 7.6D, 7.6H
Interpret Data	7.6F, 7.6G, 7.12B
Compare Data	7.12A, 7.12C
Budgets	7.13B, 7.13C, 7.13D

Grade 7, Two-Step Equations and Inequalities

NAVIGATION STEPS

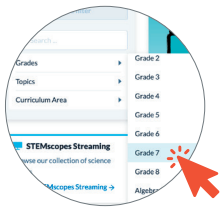
Log In

Use Your Credentials



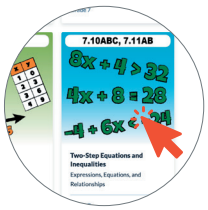
Click Scopes

Click on Scopes in the Blue Navigation Bar



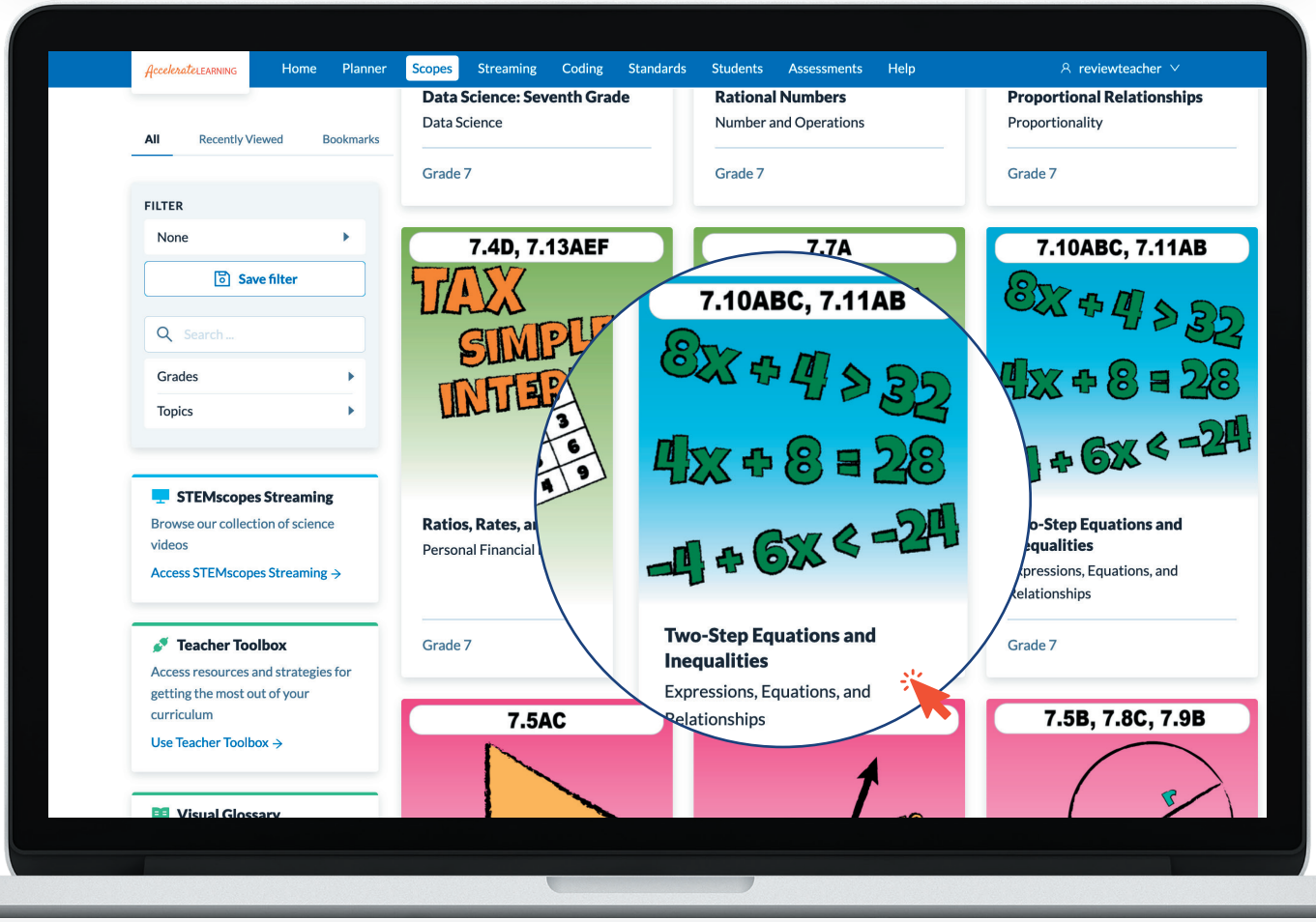
Filter

Filter to 7th Grade on the Left-Hand Side



Select Tile

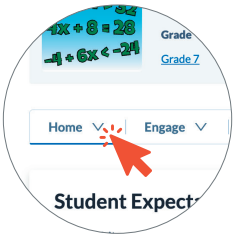
Select and Click on the Two-Step Equations and Inequalities Scope Tile



Home | Engage | Explore | Explain | Elaborate | Evaluate | Intervention | Acceleration

Home

NAVIGATION STEPS



Click Home

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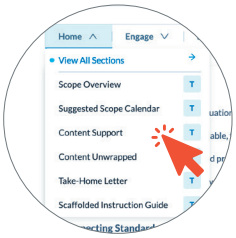


Review Content

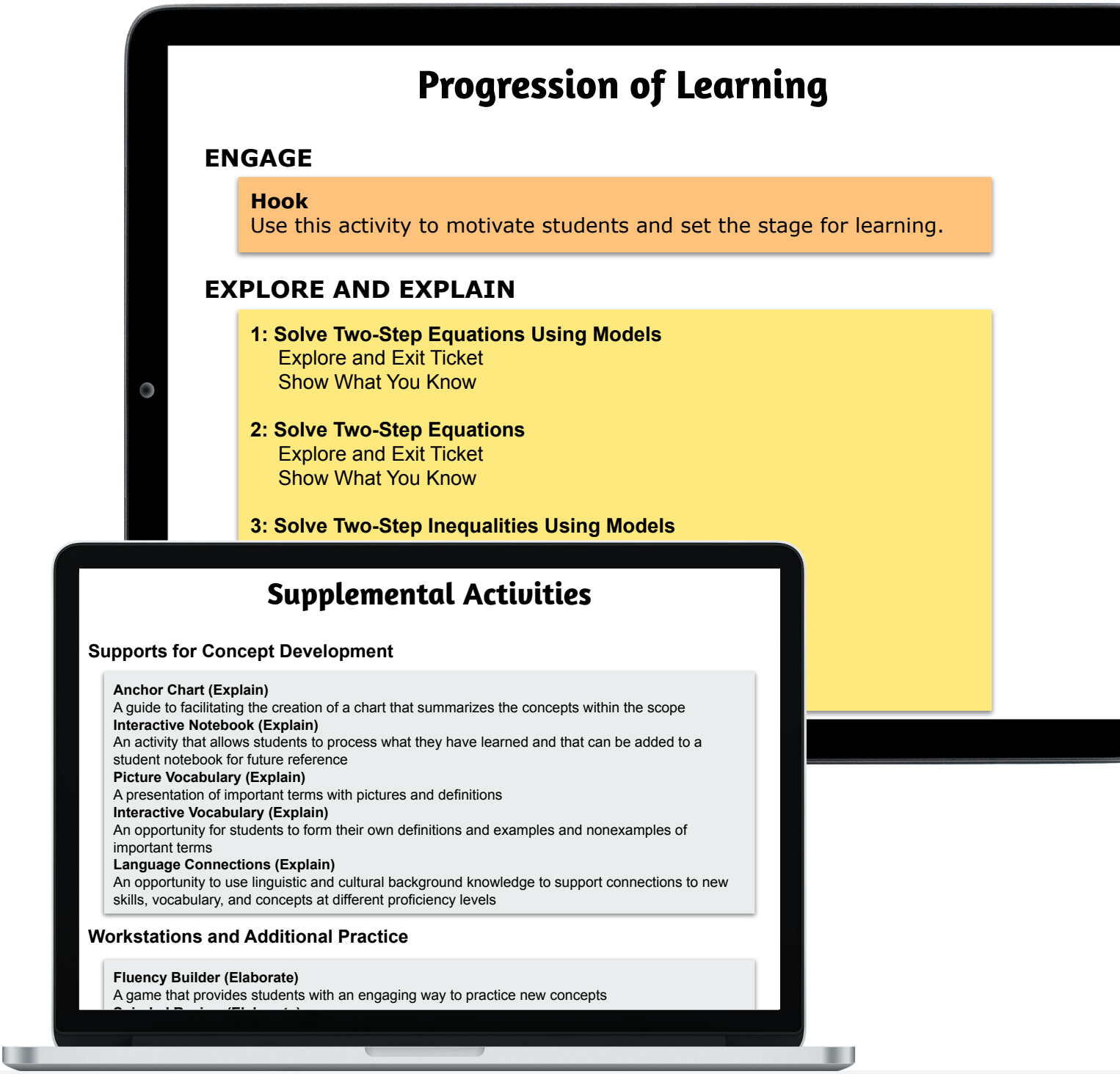
Use the Dropdown to Review Teacher Support and Resources

Our program is built by practicing and former teachers, so we know what you need to teach and that your curriculum should provide it all.

Each lesson starts with a tailored **Home** section with planning essentials, including a daily lesson calendar, comprehensive standards analysis, and letters for communicating with families.

SCOPE OVERVIEW

The Scope Overview provides a comprehensive insight into the key components that enable teachers to deliver a well-rounded and effective learning experience. It includes a Progression of Learning, which details the essential elements for mastering the standards and offers Supplemental Activities that present various options for assessment, intervention, and enrichment of the core content.



CONTENT SUPPORT

Content Support is a comprehensive unit overview that provides the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.

7.10A Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.

7.10B Represent solutions for one-variable, two-step equations and inequalities on number lines.

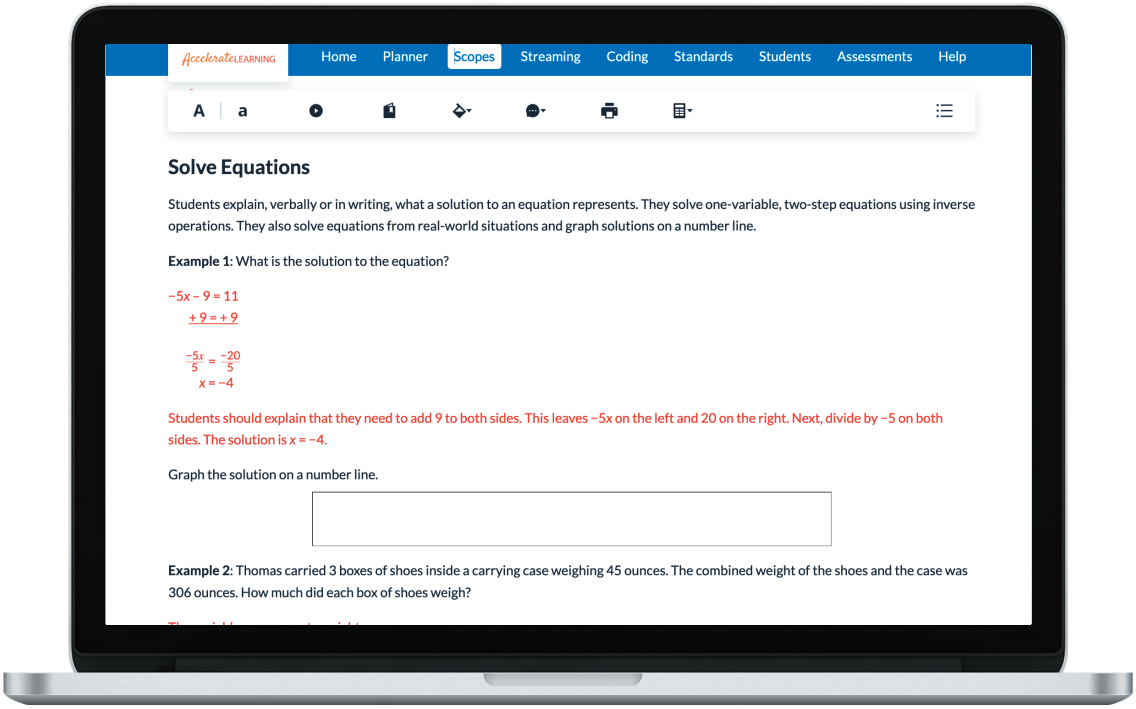
7.10C Write a corresponding real-world problem given a one-variable, two-step equation or inequality.

7.11A Model and solve one-variable, two-step equations and inequalities.

7.11B Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.

Background Knowledge

Students in 5th grade solve multistep equations, in which one variable takes the place of an unknown value. In 6th grade, students model and solve one-variable, one-step equations and inequalities. They represent solutions to equations and inequalities on number lines. They determine whether a value represents a solution to an equation or inequality by determining whether the substituted value for the variable makes the equation or inequality true. They also write one-variable, one-step equations and inequalities to represent constraints or conditions within a problem and write real-world problems when provided with a one-variable, one-step equation or inequality.



CONTENT UNWRAPPED

Content Unwrapped breaks down the TEKS by identifying the nouns and verbs within the standards, includes a list of instructional implications, and provides a vertical alignment.

Standards

7.10A Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.

7.10B Represent solutions for one-variable, two-step equations and inequalities on number lines.

7.10C Write a corresponding real-world problem given a one-variable, two-step equation or inequality.

7.11A Model and solve one-variable, two-step equations and inequalities.

7.11B Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.

Dissecting the Standard

Breakouts

7.10A

(i) Write one-variable, two-step equations to represent constraints or conditions within problems.

(ii) Write one-variable, two-step inequalities to represent constraints or conditions within problems.

7.10B

(i) Represent solutions for one-variable, two-step equations on number lines.

(ii) Represent solutions for one-variable, two-step inequalities on number lines.

7.10C

None

7.11A

(i) Model one-variable, two-step equations.

(ii) Model one-variable, two-step inequalities.

(iii) Solve one-variable, two-step equations.

(iv) Solve one-variable, two-step inequalities.

7.11B

(i) Determine if the given value(s) make(s) one-variable, two-step equations true.

(ii) Determine if the given value(s) make(s) one-variable, two-step inequalities true.

Verbs: What should students be doing?

- *determine*: to solve for; to figure out
- *model*: to show with a pictorial representation or numerical expression
- *represent*: to show how terms are related; to stand for something else
- *solve*: to find a value that answers a question and/or makes an equation true
- *write*: to record a mathematical statement

Nouns: What concrete words should students know?

- *coefficient*: the number placed directly before a variable that tells you to multiply that number by the variable
- *constant*: a fixed number that stands alone in an equation or expression
- *equation*: a mathematical sentence that uses numbers, one or more operation symbols, and an equal sign
- *greater than (>)*: more than another (e.g., 49 > 12)
- *greater than or equal to (≥)*: more than or the same as another
- *inequality*: a mathematical sentence that uses symbols such as <, ≤, >, or ≥ to compare two quantities
- *less than (<)*: smaller than another (e.g., 432 < 501)
- *less than or equal to (≤)*: smaller than or the same as another
- *maximum*: the greatest or highest amount possible or attained
- *minimum*: the least or smallest amount or quantity possible, attainable, or required
- *solution*: any number that makes an equation true
- variable: a letter or symbol that takes the place of a number that can change; a letter that can stand for an unknown number or a set of numbers

Implications for Instruction

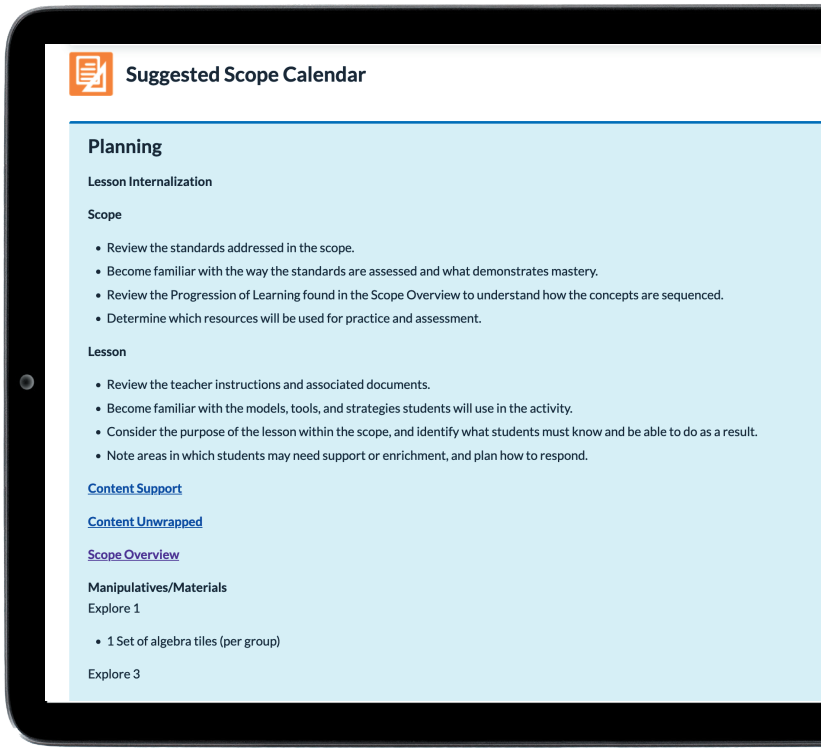
- Students previously solved one-step equations and inequalities.
- Students might not understand the difference between equations and inequalities, in that equations have one solution and inequalities have more than one solution. They might confuse the names of the inequality symbols and might not understand when to use the equal to portion of the inequality.
- Students might struggle with isolating the variable by using inverse operations. When modeling one-variable equations and inequalities, instruction should include concrete objects to assist students with this skill.
- Instruction should include various representations of the given equations/inequalities and ensure that students have experience writing inequalities scenarios for both inclusive (≥) and exclusive (>) values.

Vertical Alignment

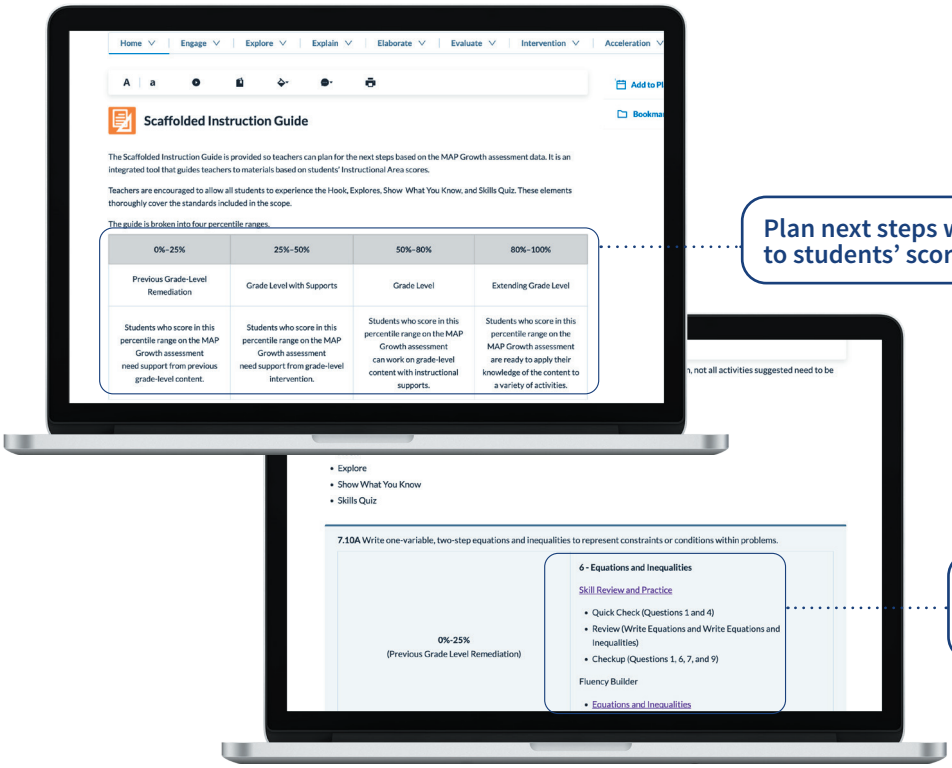
STANDARD
6.9B Represent solutions for one-variable, one-step equations and inequalities on number lines.
6.10A Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.
7.10A Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.
7.10B Represent solutions for one-variable, two-step equations and inequalities on number lines.
7.10C Write a corresponding real-world problem given a one variable, two-step equation or inequality.
7.11A Model and solve one-variable, two-step equations and inequalities.
7.11B Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.
8.8A Write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants.

SUGGESTED SCOPE CALENDAR

Dive deep into comprehensive, structured unit and lesson plans that detail daily objectives, questions, tasks, materials, instructional assessments, and suggested timing.



SCAFFOLDED INSTRUCTION GUIDE



Plan next steps with activities tailored to students' scores.

Access activities through direct links and then print or digitally assign.

TAKE-HOME LETTER

Procedure and Facilitation Points

1. As you prepare for each scope, send a Take-Home Letter with students the week before to explain planned concepts.
2. Be prepared to explain Math outside the Classroom! conversation starters as questions arise.

Séptimo grado. Ecuaciones y desigualdades de dos pasos

En la clase de Matemáticas, su estudiante está por explorar ecuaciones de dos pasos y desigualdades. Para dominar esta destreza, desarrollará su conocimiento de representar y resolver ecuaciones y desigualdades de una variable y de un paso de sexto grado. A medida que su estudiante amplíe su conocimiento de este concepto a lo largo de séptimo grado, aprenderá los siguientes conceptos:

- representar ecuaciones de dos pasos y una variable;

Ejemplo: Usa fichas de álgebra para representar $4x + 6 = -14$.

Clave

¡Matemáticas fuera del salón de clases!

Las ecuaciones y desigualdades de dos pasos son utilizadas a nuestro alrededor en nuestra vida cotidiana. Platique sobre dónde se usan las ecuaciones y desigualdades de dos pasos en la vida diaria. Aquí hay algunos ejemplos:

★ Pregunte a un amigo o familiar dueño de un negocio pequeño cómo aplica las ecuaciones y desigualdades de dos pasos en un día típico. Pregunte a cuánto vende un artículo en particular. Luego determine cuánto de ese artículo ya ha vendido. Finalmente, escriba y resuelva una desigualdad que se puede usar para resolver la cantidad de artículos que el dueño del pequeño negocio debe vender para ganar su ingreso o ganancia meta.

★ Cree un presupuesto personal que ayude a ahorrar más dinero. ¿Cuánto dinero quiere ahorrar? ¿Cuánto tiene ahorrado actualmente? ¿Cuántas horas o tareas necesitaría trabajar para alcanzar su meta de ahorro? Cree una desigualdad de dos pasos para resolver la cantidad mínima de tareas u horas que necesitaría trabajar para alcanzar su meta de ahorro.

s conductores de taxi, plomeros y electricistas usan las ecuaciones y

Seventh Grade: Two-Step Equations and Inequalities

In math class, your student is about to explore two-step equations and inequalities. To master this skill, they will build on their knowledge of modeling and solving one-variable, one-step equations and inequalities from sixth grade. As your student extends their knowledge of this concept throughout seventh grade, they will learn the following concepts:

- Model one-variable, two-step equations.

Example: Use algebra tiles to model $4x + 6 = -14$.

Key

$x = -5$

Math outside the Classroom!

Two-step equations and inequalities are used all around our everyday lives. Chat about where you use two-step equations and inequalities in your everyday life. Here are a few examples.

★ Ask a friend or family member who owns a small business how they apply two-step equations and inequalities on a typical day. Begin by asking how much they sell a certain item for. Then determine how much of that item they have already sold. Finally, write and solve an inequality that could be used to solve for the number of items the small business owner needs to sell in order to earn their target income or revenue.

★ Create a personal budget to help save more money. How much money do you want to save? How much money do you currently have in savings? How many chores or hours would you have to work in order to meet your savings goal? Create a two-step inequality to solve the minimum number of chores or hours you would need to work in order to reach your target.

★ Taxi drivers, plumbers, and electricians use two-step equations and inequalities as they charge customers for their skills and services. These professions often charge a flat fee before charging per hour. What other professions can you think of that frequently use two-step equations and inequalities in order to bill customers?

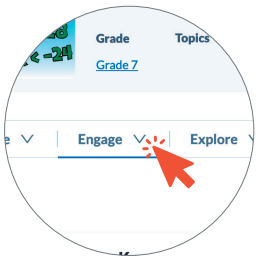
7

Available in Spanish!

Home | Engage | Explore | Explain | Elaborate | Evaluate | Intervention | Acceleration

Engage

NAVIGATION STEPS



Click Engage

Click on Engage in the White Menu Bar

Review Content

Use the Dropdown to Review Engage Content

Our **Engage** activities kick off student learning by capturing students' attention and making math approachable! Use these elements to pinpoint knowledge gaps and inform your instructional approach.

ACCESSING PRIOR KNOWLEDGE

Diagnostic

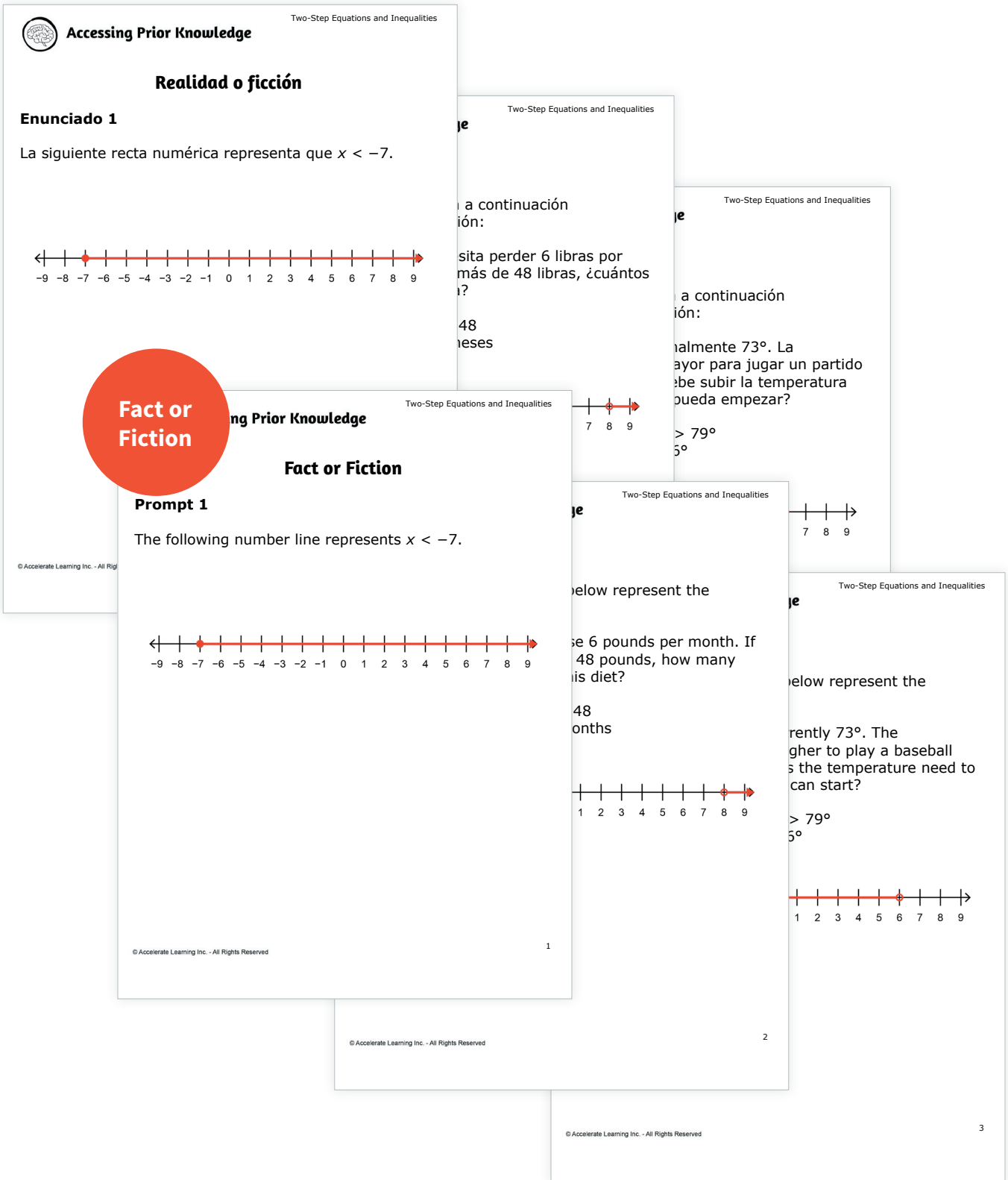
Accessing Prior Knowledge is a brief, teacher-led activity to gauge students' prior knowledge before engaging in the inquiry process. This diagnostic assessment is aligned with previously taught content standards. Students listen to prompts about the prior standard, decide whether each prompt is fact or fiction, and communicate their decisions by walking to the designated sides of the classroom. This element is designed to uncover student misconceptions; it should not be taken for a grade.

Preparation

- Print one set of Fact or Fiction Prompts to read aloud to students.
- Another option is to project the prompts using a digital projector.

Procedure and Facilitation Points

1. Designate one side of your room as the Fact side of the room and the other side as Fiction. Explain to students that they will decide whether they think each prompt is fact or fiction and then move to the corresponding side of the room.
2. Display and read the prompt. Allow students to move to different sides of the room.
3. Have students discuss their reasoning among their peers.
4. Before reading the next prompt, allow students to move back to their starting points.
5. Facilitate a discussion about the handout. This provides an opportunity to gather an understanding of prior student knowledge before beginning the lessons. Encourage students to support their answers, and check for understanding and misconceptions. Repeat with each prompt. Sample student responses include the following:
    a. *Prompt 1 is fiction.*
    b. *Prompt 2 is fact.*
    c. *Prompt 3 is fiction.*
6. If students are struggling to complete this task, do the Foundation Builder to fill the gap in prior knowledge before moving on to other parts of the scope.


Two-Step Equations and Inequalities
Accessing Prior Knowledge
Realidad o ficción
Enunciado 1
La siguiente recta numérica representa que x < −7.
−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9
Fact or Fiction
Two-Step Equations and Inequalities
Fact or Fiction
Prompt 1
The following number line represents x < −7.
−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9
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1
Two-Step Equations and Inequalities
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2
Two-Step Equations and Inequalities
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3

FOUNDATION BUILDER

This early intervention activity fills gaps in understanding before diving into new content. Students work in pairs to match real-world problems with correct inequalities and number lines.

Preparation

- Plan to have students work in pairs to complete the activity.
- Print and cut out the Math Match Cards with the option to laminate for future use.

Procedure and Facilitation Points

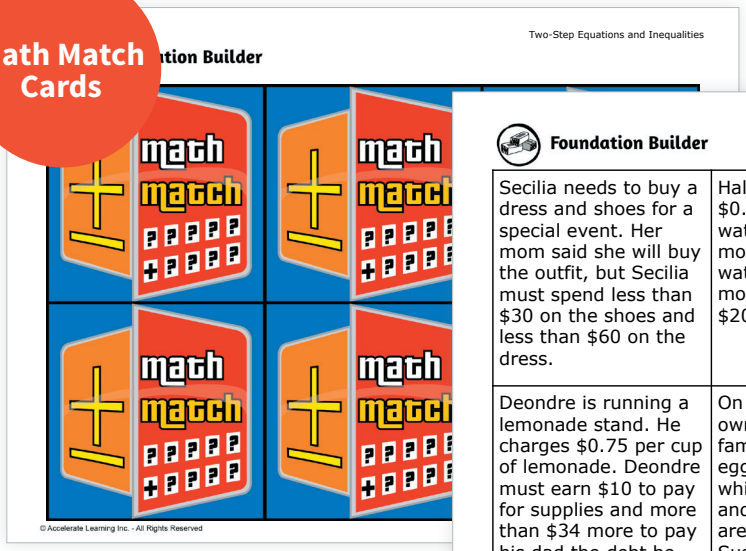
Part I

1. Distribute a set of Math Match Cards to each pair.
2. Explain that students need to match real-world problems with correct inequalities and number lines. Explain to students that they may use whiteboards and dry-erase markers for working problems.
3. Encourage students to confer with another pair of students after they are finished matching. They should discuss their answers and justifications.
4. Ask students the following questions:
    a. How do you know which sign to use in an inequality? *Words from the problem indicate whether the sign should be less than; less than or equal to; greater than; or greater than or equal to.*
    b. How do you know when to use an open or closed point on the number line? *You use an open point when the sign is greater than or less than. You use a closed point when the sign is greater than or equal to or less than or equal to.*
    c. Which direction does the arrow go on the number line? *The arrow goes to the right if the sign is greater than or greater than or equal to. The arrow goes to the left if the sign is less than or less than or equal to.*

Part II: Extension

1. Have students write real-world problems that include inequalities. Ask them how inequalities are different from equations that use equal signs. Students should identify that inequalities use greater than or less than symbols. Students should also recognize that equations with equal signs often have specific answers, and inequalities often have large ranges of solutions. For example, $x = 6$ versus $x > 6$.

Math Match Cards



Two-Step Equations and Inequalities

Foundation Builder

Secilia needs to buy a dress and shoes for a special event. Her mom said she will buy the outfit, but Secilia must spend less than $30 on the shoes and less than $60 on the dress.	Hal's family pays $0.32 per gallon of water used. Every month, his family's water bill has been more than $58 plus a $20 service fee.	Priscilla has money to spend at the carnival and so does her sister Presley. Each girl wants to spend $30, but they agreed to be responsible and spend less than $50 combined.
Deondre is running a lemonade stand. He charges $0.75 per cup of lemonade. Deondre must earn $10 to pay for supplies and more than $34 more to pay his dad the debt he owes him.	On a chicken farm owned by the Burkett family, at least 200 eggs are laid daily by white leghorn hens, and at least 295 eggs are laid every day by Sussex hens.	Jeremy is getting a new bed in his room. It is 48 inches wide. It must be shorter in length from headboard to footboard than 84 inches or it will not fit in his room.

 2

Foundation Builder

Two-Step Equations and Inequalities

Foundation Builder

Secilia necesita comprar un vestido y zapatos para un evento especial. Su mamá le dijo que comprara la ropa, pero Secilia debe gastar menos de $30 en los zapatos y menos de $60 en el vestido.	La familia de Hal paga $0.32 por galón de agua utilizado. Todos los meses, la factura de agua de su familia ha sido de más de $58 más una tarifa de servicio de $20.	Priscilla tiene dinero para el carnaval y su hermana Presley también. Cada niña quiere gastar $30, pero acordaron ser responsables y gastar menos de $50 entre las dos.
Deondre tiene un puesto de limonada. Él cobra $0.75 por taza de limonada. Deondre debe ganar $10 para pagar los suministros y más de $34 extra para pagar lo que le debe a su papá.	En una granja de pollos de propiedad de la familia Burkett, las gallinas Leghorn blancas ponen por lo menos 200 huevos al día, y las gallinas Sussex ponen por lo menos 295 huevos al día.	Jeremy va a colocar una cama nueva en su cuarto. Mide 48 pulgadas de ancho. Debe tener una longitud más corta desde la cabecera hasta el pie de cama que 84 pulgadas o no cabrá en su cuarto.

 2

HOOK - FUNCTION OR MALFUNCTION?

Use the Hook to motivate students and start to connect their learning to real-world contexts. Students determine an unknown value by using a model to create and solve an equation.

Preparation

- Plan to show the Phenomena.
- Prepare to project Scorer's Table for the whole class to view.
- Prepare to introduce the scenario and to encourage students to think about how to solve it. Be prepared to move to the Explore activities, returning students to the Hook activity with newly gained knowledge after the Explores have been completed.

Procedure and Facilitation Points

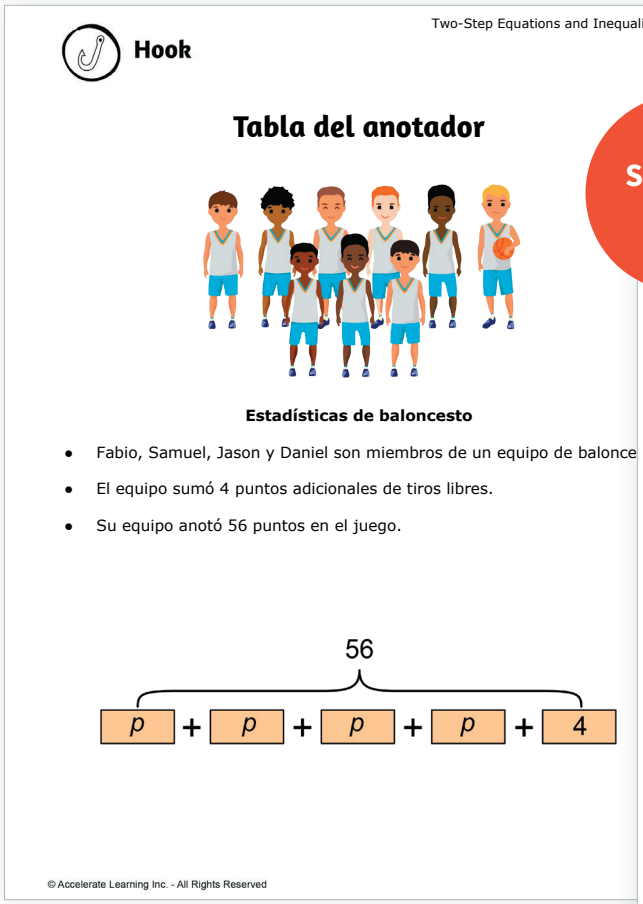
Part I: Pre-Explore

1. Introduce this activity toward the beginning of the scope. The class will revisit the activity and solve the original problem after students have completed the corresponding Explore activities.
2. Show the Phenomena. Ask students the following questions: *What do you notice? Where can you see math in this situation? Allow students to share all ideas.*
3. Allow the students to ask questions and clarify the context as needed. Encourage them to share their thoughts and experiences with the class using the following questions:
   a. Have you ever played basketball or seen a basketball game?
   b. How do teams earn points in basketball? Are all baskets worth the same amount of points?
   c. What is a good score in a basketball game?
4. Explain the scenario to the class: *Fabio, Jason, Samuel, and Daniel play on the same basketball team. In their first game of the season, every member of the team scored a number of points. The team also scored additional points with some free throws. They celebrated when their team won the game with a score of 56. How many points did each player score in the game?*
5. Project Scorer's Table.
6. Explain to students that the team added 4 points to its total due to free throws the players made. The scorekeeper showed a model so they could determine how many points each basketball player scored. Discuss the following questions with the class:
   a. **DOK-1** What is a variable? *A variable is a letter or symbol that stands for a value that is not known yet.*
   b. **DOK-1** What does the variable p represent in the model? *The number of points scored in the game by each player.*
   c. **DOK-1** How could the number of points scored by the basketball team be represented? $4p + 4$
7. Move on to complete the Explore activities.

Part II: Post-Explore

1. After students have completed the Explore activities for this topic, show the Phenomena again and repeat the scenario.
2. Refer to Scorer's Table, and discuss the following questions with the class:
   a. **DOK-1** What is a variable? *A variable is a letter or symbol that stands for a value that is not known yet.*
   b. **DOK-1** What does the variable p represent in the model? *The number of points scored in the game by each player.*
   c. **DOK-1** How could the number of points scored by the basketball team be represented? *4p + 4*
   d. **DOK-1** What is the equation that solves for p? *4p + 4 = 56*
   e. **DOK-2** Solve the equation. How many points did each basketball player score? *4p + 4 = 56, 4p = 52, p = 13*
3. As time allows, have students work in pairs to create their own scenario and model a two-step equation or inequality. Have them solve the problem and present their scenario to the class.

Scorer's Table


Two-Step Equations and Inequalities

Hook

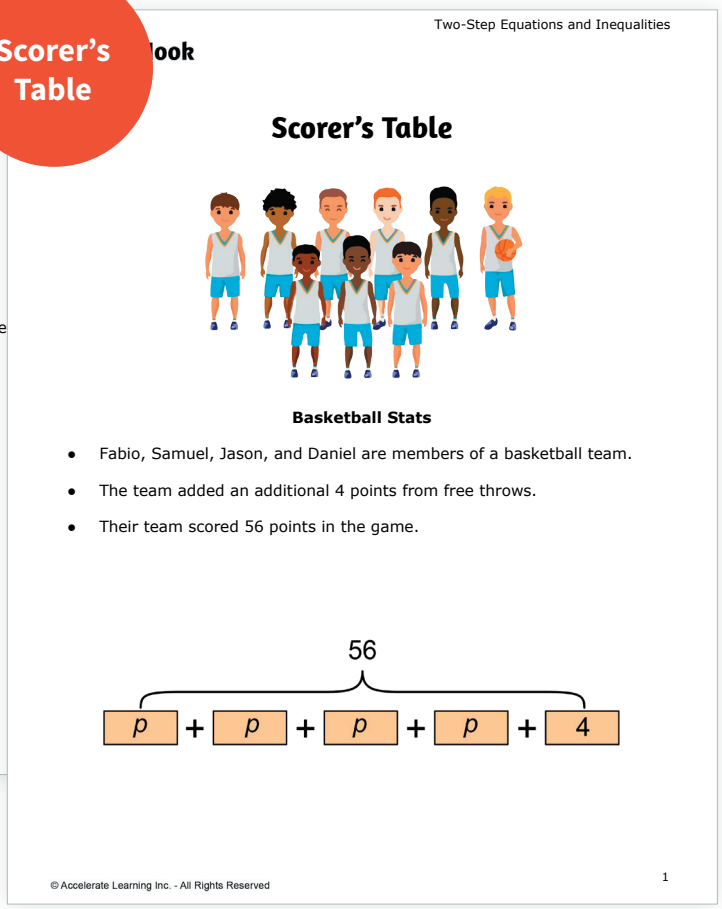
Tabla del anotador

Estadísticas de baloncesto

- Fabio, Samuel, Jason y Daniel son miembros de un equipo de baloncesto.
- El equipo sumó 4 puntos adicionales de tiros libres.
- Su equipo anotó 56 puntos en el juego.

56

p + p + p + p + 4


Two-Step Equations and Inequalities

Hook

Scorer's Table

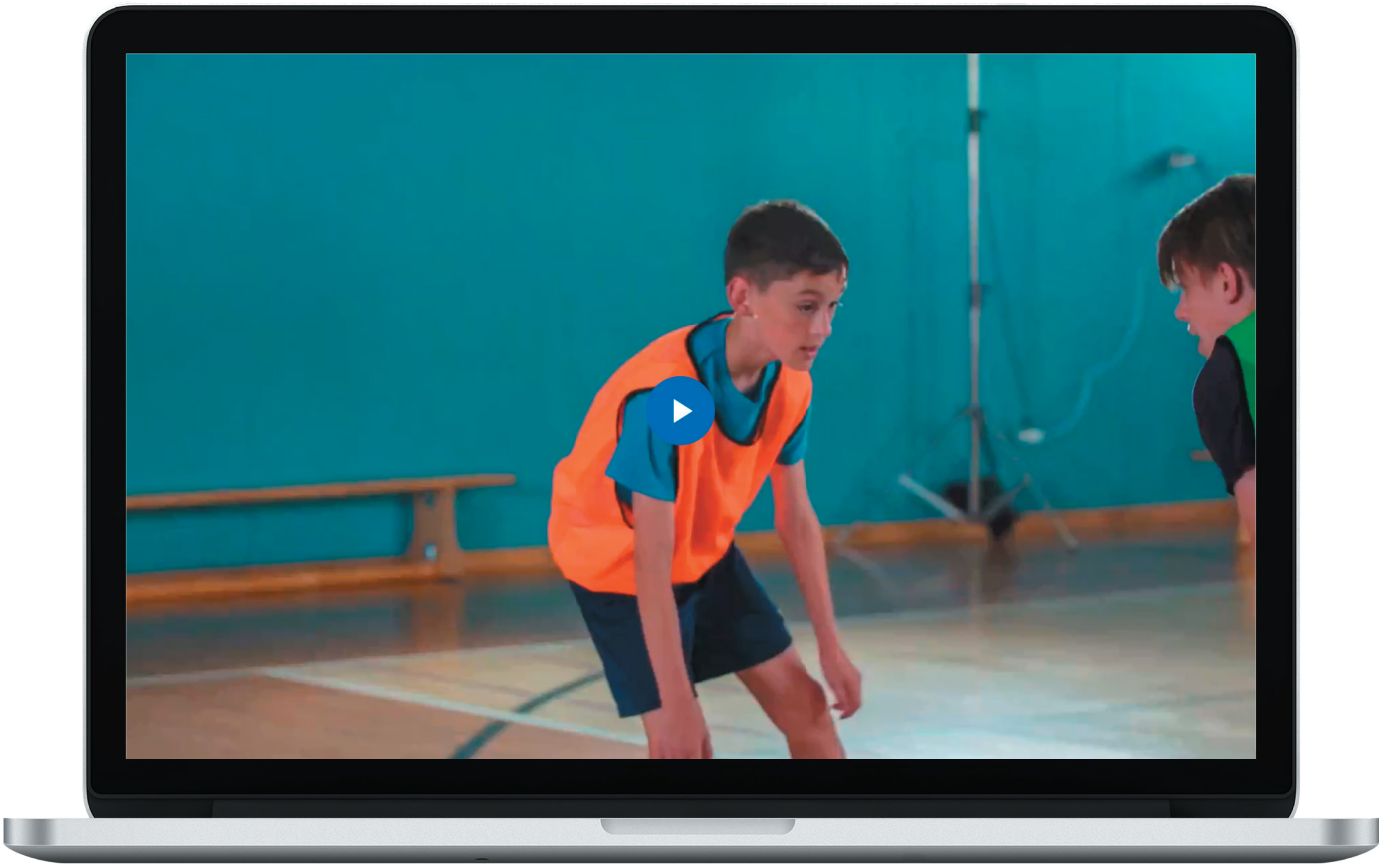
Basketball Stats

- Fabio, Samuel, Jason, and Daniel are members of a basketball team.
- The team added an additional 4 points from free throws.
- Their team scored 56 points in the game.

56

p + p + p + p + 4

1



Scan and Watch the Hook Phenomena Video

Explore

NAVIGATION STEPS

Click Explore

Click on Explore in the White Menu Bar

Review Content

Use the Dropdown to Review Explore Content

Scaffolded, hands-on **Explore** activities are at the heart of each lesson. We know students learn best by doing, so we go beyond worksheets and memorization, providing opportunities to engage in rich mathematical discourse within real-world contexts.

EXPLORE 1 - SOLVE TWO-STEP EQUATIONS USING MODELS

Students draw pictures to model word problems. Students match their drawings to models and write equations to represent the word problems.

Mathematical Process Standards

- (A) Apply mathematics to problems arising in everyday life, society, and the workplace.
- (C) Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.
- (G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Preparation

- Plan to have students work in groups of 2–3 to complete this activity.
- Print the Student Journal and Exit Ticket for each student.
- Print one set of Game Booth Cards for each group. Cut out the cards, and place each set into a resealable bag. If desired, print on card stock and laminate for future use.
- Print an Algebra Equations Mat for each group. If desired, print the mat on card stock and laminate for future use.
- Gather enough sets of algebra tiles for each group to have one set of each.
- Be prepared to display an Algebra Equations Mat and a set of algebra tiles or display the virtual algebra tiles for the class to see.
- Go Digital! Have students explore or present their solutions using virtual manipulatives! The manipulatives used in this lesson can be found in the Explore drop-down menu and can be digitally assigned to students (Algebra Tiles).

Procedure and Facilitation Points

1. Read the following scenario to the class: *Your school is hosting a fundraiser to benefit some areas around campus that need improvements. Several school clubs have volunteered to host booths to help. The athletics club will host a game booth to help raise money. Students will pay a fee to play games and win prizes. Help the game booth volunteers solve some problems that involve setting up and running the game booth.*
2. Help students access the task by using the following guiding questions:
   a. How do you represent an unknown amount in an equation?
   b. What experience do you have using algebra tiles?
   c. What do a green rectangle and a red rectangle represent?
   d. What do a yellow square and a red square represent?
3. **DOK-2** Ask students to share what experiences they have had working with algebra tiles.
4. Display the Algebra Equations Mat and set of algebra tiles, or display the virtual algebra tiles.
5. Distribute a set of algebra tiles and an Algebra Equations Mat to each group of students.
6. Distribute a Student Journal to each student.
7. Have students model and solve the problem on page 1 of the Student Journal. (Note that students have already learned how to solve equations.) Monitor and talk with students as needed to check for understanding by using the following guiding questions:
   a. **DOK-1** How do you represent the variable? *A white rectangle represents a positive variable.*
   b. **DOK-1** How do you represent the integers? *A white square represents the positive integers.*
   c. **DOK-1** Which operation do you start with first when solving this problem? *Subtraction*
   d. **DOK-2** What steps should take place to solve the problem? *First, subtract 2 from both sides, and then divide both sides by 3 to get the solution to the problem.*
8. Explain that students will work cooperatively on the Game Booth Cards to analyze several math problems and create diagrams or drawings to model the situations.
9. Distribute a set of Game Booth Cards to each group. Allow groups time to talk through each problem and create a model using algebra tiles in the blank space at the bottom of each card.
10. When students have completed the Game Booth Cards, explain that students will now use their Game Booth Cards to complete their Student Journals.
11. Encourage students to notice the similarities and differences between the strategies used to create models when solving two-step equations.

Student Journal

Game Booth Cards

Algebra Equations Mat

Two-Step Equations and Inequalities

Explore

Reflect

1. How can you decide which side of the
2. How can you evaluate your equation t
3. Give an example of a two-step equatic to solve it using algebra tiles.

Two-Step Equations and Inequalities

Explore

Basketball Shot

Identify your variable. | *m* repre

Equation:

Solution:

Two-Step Equations and Inequalities

Explore

Use the work from your group's Game Boo equation, and then model and solve the p

Ring Game

Identify your variable. | *p* re

Equation:

=

Two-Step Equations and Inequalities

Name:_____ Date:_____

olving Two-Step Equations Using Models

Model and solve the equations in the scenarios using algebra tiles.

Game Booth Fundraiser

The athletics club has started selling tickets for the fundraiser. They now have 2 more than three times as many customers who purchased tickets than when they started. The athletics club now has 11 customers who have purchased tickets. How many customers did the fundraiser have when they started selling tickets?

$3t + 2 = 11$

=

Solution:

Two-Step Equations and Inequalities

lore

Game Booth Cards

Ring Game

- Nevaeh had two times the amount of prizes for the game.
- Jemma bought 8 more prizes for the ring game.
- Now there are 20 prizes.
- How many prizes (p) did Nevaeh originally have?

Basketball Shot

- Cirelio spent $11 on food.
- This is $4 less than three times the amount that he sp playing the basketball shot game.
- How much money (m) did Cirelio spend playing the basketball shot game?

Two-Step Equations and Inequalities

Algebra Equations Mat

x $-x$ -1 1

Two-Step Equations and Inequalities

Explore

Reflexiona

1. ¿Cómo puedes decidir de qué lado del
2. ¿Cómo puedes evaluar tu ecuación pa
3. Da un ejemplo de una ecuación de dos para resolverla con fichas de álgebra.

Two-Step Equations and Inequalities

Explore

Tiro de baloncesto

Identifica tu variable.	*m* repre

Ecuación:

Solución:

Two-Step Equations and Inequalities

Explore

Usa el trabajo del documento «Tarjetas de l grupo para identificar la variable, escribir la ecuación con fichas de álgebra.

Juego de aros

Identifica tu variable.	*p* re

Ecuación:

=

Student Journal

Two-Step Equations and Inequalities

Name:_____ Date:_____

luer ecuaciones de dos pasos con el uso de modelos

Representa y resuelve las ecuaciones en los escenarios, usa las fichas cuadradas de álgebra.

Recaudación de fondos en la caseta de juegos

El club de atletismo comenzó a vender boletos para la recaudación de fondos. Ahora tienen 2 más del triple de clientes que compraron boletos que cuando comenzaron. El club de atletismo ahora tiene 11 clientes que compraron boletos. ¿Cuántos clientes tenía el grupo de recaudación de fondos cuando comenzaron a vender boletos?

$3t + 2 = 11$

=

Solución:

Game Booth Cards

Two-Step Equations and Inequalities

lore

Tarjetas de la caseta de juegos

Juego de los aros

- Nevaeh tenía dos veces la cantidad de premios par juego de los aros.
- Jemma compró 8 premios más para el juego de lo
- Ahora hay 20 premios.
- ¿Cuántos premios (p) tenía Nevaeh originalmente?

Lanzamiento de básquetbol

- Cirelio gastó $11 en comida.
- Esto es $4 menos que tres veces la cantidad que gastó e el juego de lanzamientos de básquetbol.
- ¿Cuánto dinero (m) gastó Cirelio en el juego de lanzamiento de básquetbol

Algebra Equations Mat

Two-Step Equations and Inequalities
Explore 1

Tapete de ecuaciones de álgebra

x $-x$ -1 1

Math Chat

After the Explore, invite the class to a Math Chat to share their observations and learning.

Questions	Sample Student Responses
DOK-2 Does it matter which side of the equal sign you put the variable? Explain.	It doesn't matter which side the variable is on because both sides are equal.
DOK-2 How can you use algebra tiles to solve two-step equations?	To use algebra tiles to model an equation, we place the relevant number of variable rectangle tiles and square tiles for each side of the equation. We divide the tiles into equal groups, and then we use the tiles to solve the given equation with the goal of ending up with the rectangle tiles by themselves on one side.
Choose a Structured Conversation routine to facilitate the following question: **DOK-2** Give an example of a two-step equation, and describe the steps you would use to solve it using algebra tiles.	$3x - 2 = -20$ Step 1: Add 2 positive squares on each side to represent adding positive 2. Step 2: Remove zero pairs from both sides. Step 3: Divide each side into 3 equal groups. Step 4: The solution is -6.

Post-Explore

1. Have students complete the Exit Ticket to formatively assess their understanding of the concept.
2. Complete the Anchor Chart as a class.
3. Have each student complete their Interactive Notebook.

Exit Ticket

Formative

Two-Step Equations and Inequalities

plore

Name:_____ Date:_____

Solve Two-Step Equations Using Models Exit Ticket

Read the scenario. Write the equation that represents the scenario, and then model and solve the problem using algebra tiles.

Bowling Challenge

Jesse and Michelle are competing in a bowling challenge. In the challenge, Michelle has three less than four times as many points as Jesse. Michelle has 13 points. How many points does Jesse have?

Equation:

=

Solution:

Two-Step Equations and Inequalities

_____ Date:_____

ciones de dos
so de modelos
e salida

presenta el escenario. Luego representa y
ra.

los bolos. En este desafío, Michelle tiene
tos de Jesse. Michelle tiene 13 puntos.

Solución:

1

Instructional Support

1. Students may feel overwhelmed when approaching a word problem. Provide students with a series of questions they can ask to approach word problems: a) What do I want to know? b) What do I know? c) What can I do with what I know? d) Is that what I want to know?
2. Students may think that the equal sign means "the answer is." Emphasize the phrase "is equal to." Such a distinction will help when students are introduced to variables on either side of the equal sign.
3. As students become acquainted with variables, especially in the context of word problems, encourage them to use specific language. For example, if a student says or writes "p equals prizes," have them instead specify that p equals the number of original prizes. Such specificity in language will be beneficial as their knowledge and practice of algebra grows.
4. As an extension, pair the students and have them model a scenario with a two-step equation. If time allows, have the students present their models to the class.

Language Supports

Clarify the mathematical meaning of the following key terms by emphasizing them during the Explore: *equation*, *solution*, and *variable*.

Support students in understanding the first scenario on the Student Journal by reading the problem stem (without the question) three times. After the first read, ask, "What is this scenario about?" Listen for and clarify any questions about the context. After the second read, ask, "What are the numbers we see in the scenario? What do these numbers represent?" After the third read, ask, "What math questions could be answered with this information?" Then read aloud the question to the class and allow them to begin working.

When reading the statements on the Student Journal, be sure to emphasize the term *equals* when referring to the equal sign. This can also be connected to the phrase *is the same as*. After reading the statement a few times, encourage the student to record the information and read it on their own.

The following English Language Proficiency Standards are supported:
1.ACEF, 2.CE, 3.D, 4.GIJK

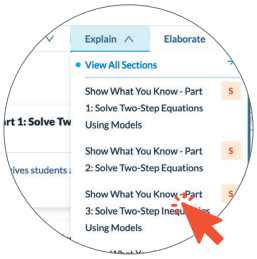
Embedded supports in every lesson!

Explain

NAVIGATION STEPS

Click Explain

Click on Explain in the White Menu Bar



Review Content

Use the Dropdown to Review Explain Content

In the **Explain** section, students form authentic connections and apply their learning to various contexts. They deepen their understanding and build confidence as they master the lesson standards.

More practice and formative assessment opportunities!

SHOW WHAT YOU KNOW - PART 1: SOLVE TWO-STEP EQUATIONS USING MODELS

Formative

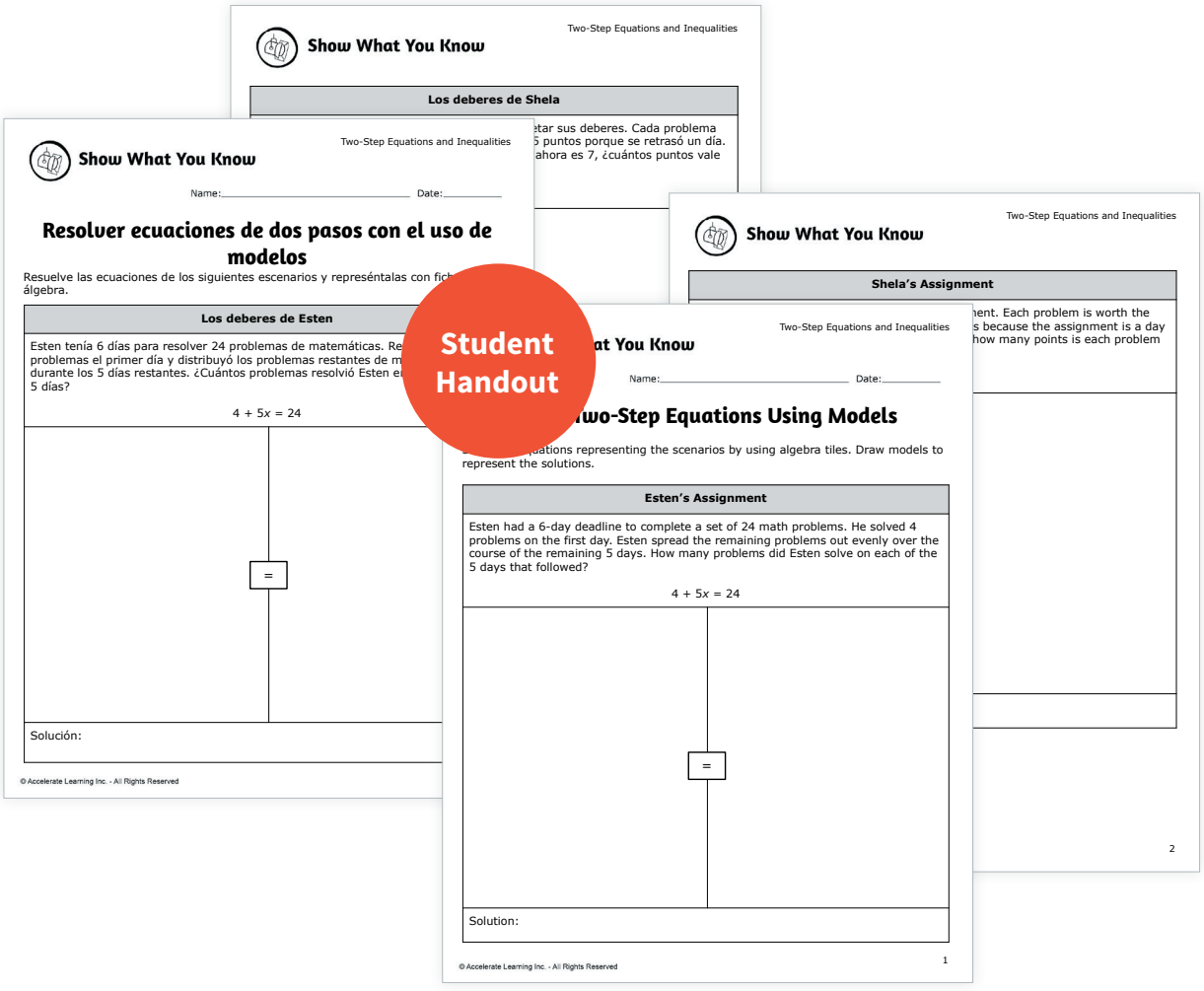
Students will practice using the knowledge and skills they have learned from the Explore activities.

Preparation

- Print a Student Handout for each student.
- The Show What You Know correlates with the Explore of the same title.

Procedure and Facilitation Points

1. Students should individually complete the Show What You Know activity that correlates with the Explore activity already completed.
2. Provide manipulatives as needed, especially those manipulatives used in the Explore.
3. This element can be used to assess whether intervention is needed for each student.



INTERACTIVE NOTEBOOK

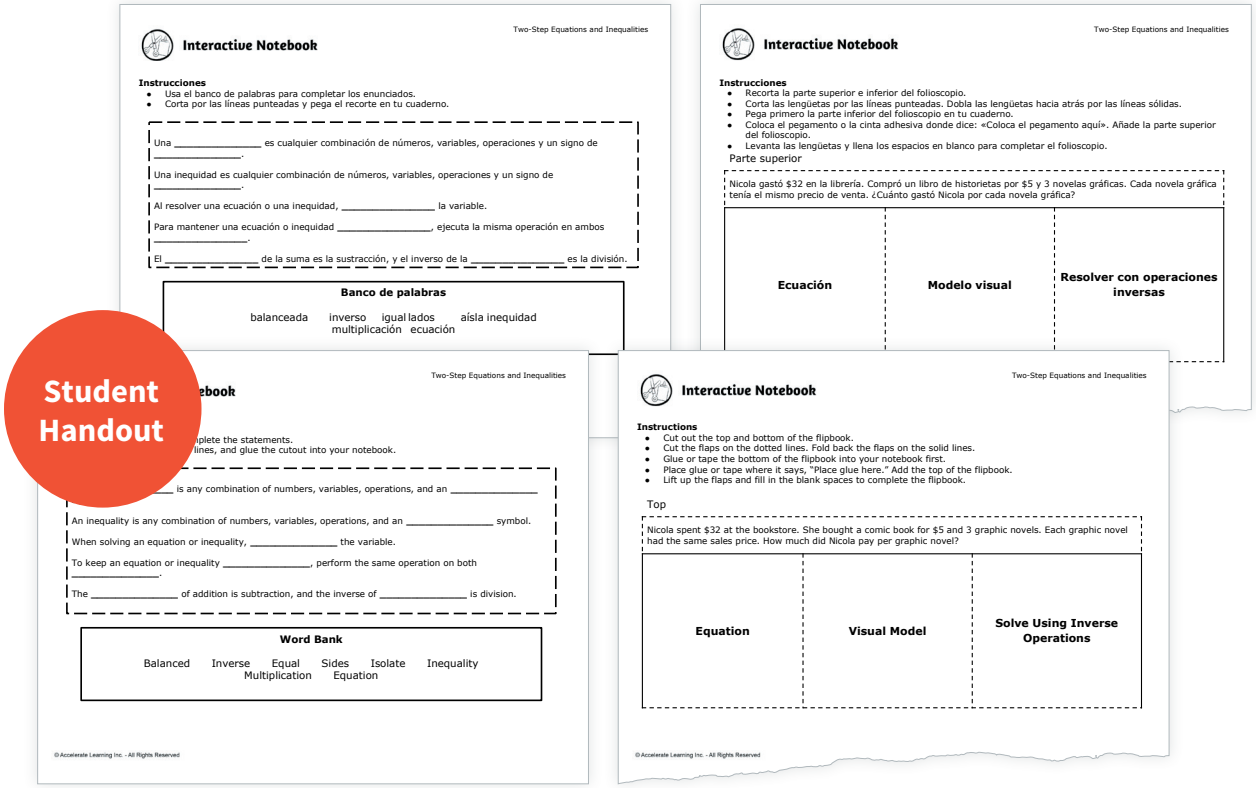
Students take notes, express ideas, and process the information presented in class using the activity and notebook.

Preparation

- Print a Student Handout for each student.

Procedure and Facilitation Points

1. Prepare an interactive notebook using a spiral or composition notebook for each student. Students can use the first few pages to create a table of contents with page numbers to keep track of activities.
2. Student instructions are given for each activity on the Student Handout.
3. Allow time for students to complete the activity and glue the pieces into their interactive notebooks.
4. Interactive notebooks can be used as a student reference during independent work and can be sent home at the end of the year as a record of their learning.



LANGUAGE CONNECTIONS

Students have the opportunity to use their linguistic and cultural background knowledge to support connections to new skills, vocabulary, and concepts at their proficiency levels.

Preparation

- Prepare for students to work with partners when necessary.
- Determine each student's English proficiency level.
- Print a Student Handout for each student at their English proficiency level.
- Allow students to have access to the Picture Vocabulary for this scope.
- Allow students to have access to various mathematical tools, digital and physical graphing tools, pencils or rulers for vertical line tests, and scratch paper.

Procedure and Facilitation Points

1. Distribute a Student Handout at the appropriate proficiency level to each student.
2. Use the prompts for the listening, speaking, reading, and writing portions. Use gestures, pointing at objects, and visuals as appropriate. See prompts for suggestions.
3. Allow time for students to think with their neighbors before responding.
4. Encourage students to persevere through their thinking and to use mathematical tools and models.
5. Invite students to respond appropriately to each linguistic domain.
6. Have students use the final page of the Student Handout to form connections between math concepts and the real world.

Beginner

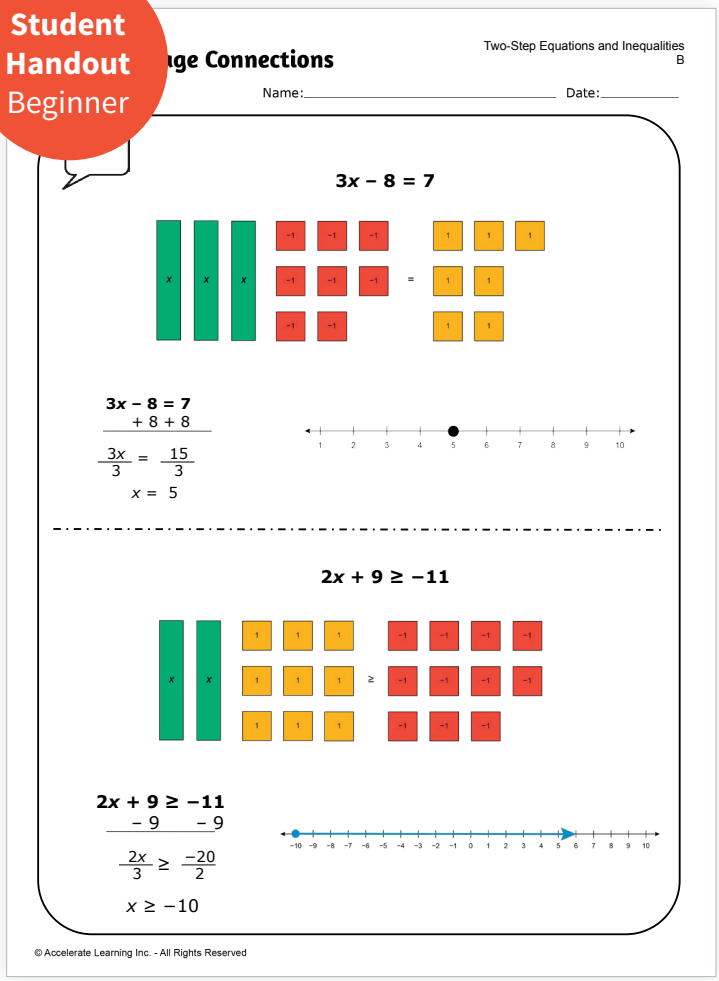
Have algebra tiles available for students to use. Read the following prompts one at a time

- *Point to the equation.*
- *Point to the model of the equation.*
- *Point to the rectangle.*
- *This represents x.*
- *Point to a small negative square.*
- *Using your finger, count the number of negative squares.*
- *Draw a check mark on the −8 on the equation if you counted the same number of negative squares.*
- *Point to a small negative square.*

Multilingual Learner Support!

- *Using your finger, count the number of positive squares.*
- *Draw a check mark on the number 7 on the equation if you counted the same number of positive squares.*
- *Using a marker, circle the equal sign in the model and the equation.*
- *Point to the equation and its step-by-step solution.*
- *Using a marker, circle with +8 on both sides of the equation.*
- *This is the inverse of −8.*
- *Using a marker, circle the 3 divided on both sides of the equation.*
- *This is the inverse of multiplying by 3.*
- *The solution is x = 5.*
- *Point to the solid circle on the graph.*
- *This is x = 5 represented on the graph.*
- *Repeat these prompts with the inequality on the bottom half of the page.*

Student Handout Beginner



Two-Step Equations and Inequalities
B

ge Connections

Name:_____ Date:_____

$3x - 8 = 7$

$3x - 8 = 7$
$+ 8 + 8$
$\frac{3x}{3} = \frac{15}{3}$
$x = 5$

$2x + 9 \geq -11$

$2x + 9 \geq -11$
$- 9 \quad - 9$
$\frac{2x}{3} \geq \frac{-20}{2}$
$x \geq -10$

Intermediate

Have algebra tiles available for students to use. Read the following prompts one at a time:

- *The handout shows an equation and an inequality to model and solve.*
- *Point to the equation.*
- *On the handout, model the equation.*
- *Draw rectangles to represent x.*
- *Draw negative and positive squares to represent the constants.*
- *Draw an equal sign.*
- *Below your model, point to the equation.*
- *Ask the person next to you how to remove −8 on the left-hand side of the equation. Then both partners will write on their handouts, the inverse operation of +8 on both sides of the equation and the simplified equation.*
- The students should switch roles so the student who did the asking in the previous step will do the listening and explaining in the next step.
- *Ask the person next to you how to remove the coefficient. Then both partners will write on the handout the calculations, inverse of the coefficient, and the final solution.*
- *Point to the number line.*
- *Draw a solid circle on the value of x.*
- *Point to the inequality on the second half of the handout.*
- *On the handout, model the inequality*
- *Draw rectangles to represent x.*
- *Draw negative and positive squares to represent the constants.*
- *Draw the inequality.*
- *Below your model, point to the inequality.*
- *Ask the person next to you how to remove +9 on the left-hand side of the equation. Then both partners will write on their handouts the inverse operation of −9 on both sides of the inequality and the simplified inequality.*
- The students should switch roles so the student who did the asking in the previous step will do the listening and explaining in the next step.
- *Ask the person next to you how to remove the coefficient. Then both partners will write on the handout the calculations, inverse of the coefficient, and the final solution.*
- *Point to the number line.*
- *Draw a solid circle on the value of x.*
- *Draw an arrow pointing to the solutions of x.*

Student Handout Intermediate

Two-Step Equations and Inequalities I

age Connections

Name:_____ Date:_____

Model and solve the equation:

$3x - 8 = 7$

Graph the solution on the number line:

$3x - 8 = 7$

1 2 3 4 5 6 7 8 9 10

Model and solve the inequality:

$2x + 9 \geq -11$

$2x + 9 \geq -11$

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

Two-Step Equations and Inequalities I

nguage Connections

Name:_____ Date:_____

Representa y resuelve la ecuación:

$3x - 8 = 7$

Grafica la solución en la recta numérica:

$3x - 8 = 7$

1 2 3 4 5 6 7 8 9 10

Representa y resuelve la desigualdad:

$2x + 9 \geq -11$

$2x + 9 \geq -11$

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

Advanced

Have algebra tiles available for students to use. Read the following prompts one at a time:

- *Point to the equation.*
- *The model of the equation contains errors. Examine the model for the variable and the constants. Point to the part of the model that contains the error.*
- *Ask the person next to you where they found an error.*
- *Did this error generate an incorrect solution or correct solution to the equation?*
- *Examine the solution to the equation in algebraic form.*
- *Point to the step that contains the error.*
- *Ask the person next to you where they found an error.*
- *Did this error generate an incorrect solution or correct solution for the equation? Put a check mark by the x if it is correct or a circle by the x if it is incorrect.*
- *Go back and solve the problem correctly.*
- *Point to the inequality.*
- *The model of the inequality contains errors. Examine the model for the variable and the constants. Point to the part of the model that contains the error.*
- *Ask the person next to you where they found an error.*
- *Did this error generate an incorrect solution or correct solution to the inequality?*
- *Examine the solution to the inequality in algebraic form.*
- *Point to the step that contains the error.*
- *Ask the person next to you where they found an error.*
- *Did this error generate an incorrect solution or correct solution for the inequality? Put a check mark by the x if it is correct or a circle by the x if it is incorrect.*
- *Go back and solve the problem correctly.*

Student Handout Advanced

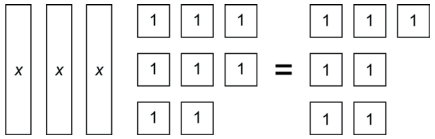
Two-Step Equations and Inequalities
A

age Connections

Name:_____ Date:_____

Shown here are the calculations to solve an equation and inequality. There are errors in the model and the solution. Find the errors.

$3x - 8 = 7$



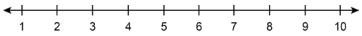
$3x - 8 = 7$

Step 1 $\frac{-8 \quad -8}{3x = -1}$

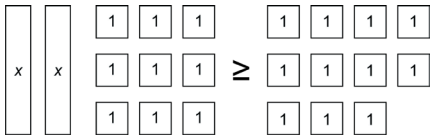
Step 2 $\frac{}{3 \quad 3}$

$x = -3$

Graph the correct solution on the number line:



$2x + 9 \geq -11$



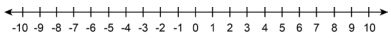
$2x + 9 \geq -11$

Step 1 $\frac{-9 \quad -9}{2x \geq -20}$

Step 2 $\frac{}{2 \quad 2}$

$x \leq -10$

Graph the correct solution on the number line:



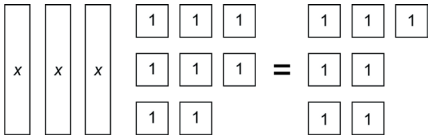
Two-Step Equations and Inequalities
A

guage Connections

Name:_____ Date:_____

Aquí se muestran los cálculos para resolver una ecuación y una desigualdad. Hay errores en el modelo y la solución. Encuentra los errores.

$3x - 8 = 7$



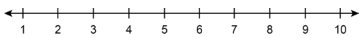
$3x - 8 = 7$

$\frac{-8 \quad -8}{3x = -1}$

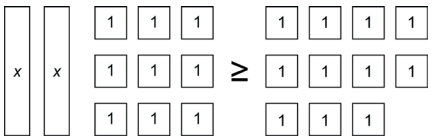
$\frac{}{3 \quad 3}$

$x = -3$

Grafica la solución correcta en la recta numérica:



$2x + 9 \geq -11$



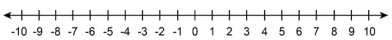
$2x + 9 \geq -11$

Paso 1 $\frac{-9 \quad -9}{2x \geq -20}$

Paso 2 $\frac{}{2 \quad 2}$

$x \leq -10$

Grafica la solución correcta en la recta numérica:



PICTURE VOCABULARY

Students build academic vocabulary and connect vocabulary to their experiences. This element is meant to be used in tandem with Explores.

Preparation

- Prepare to project the Slideshow for the class.
- Print the Student Handout with multiple slides on one page for students to cut and add the Picture Vocabulary to their Interactive Notebooks.

Procedure and Facilitation Points

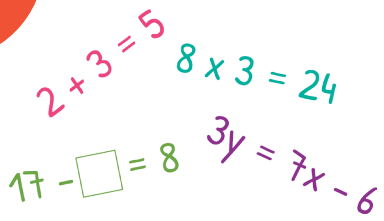
1. Project the Slideshow for the class.
2. Read words and/or definitions with students. Discuss words or definitions that are unfamiliar to students.
3. Discuss the following questions:
    a. How can you connect this word to your work in the Explore?
    b. How would you rephrase the definition in your own words?
    c. What do you picture in your mind when you hear this word?
4. To practice vocabulary with an engaging game, see Vocabulary Strategies in the Explain section of each Launch scope.
5. Refer to the Slideshow to review Picture Vocabulary as students complete each Explore.

Tips and Tricks

- Print the Student Handout with four slides on a page. Cut out each slide, and create a math word wall in the classroom.
- Download the Picture Vocabulary slides in the Teacher Toolbox under Essentials. Use this to create a slideshow without pictures, and print with multiple slides on one page. To foster student ownership of their own learning, allow students to add their own pictures.
- For secondary grade levels, use the Picture Vocabulary Slideshow to complete Interactive Vocabulary to solidify students' understanding.

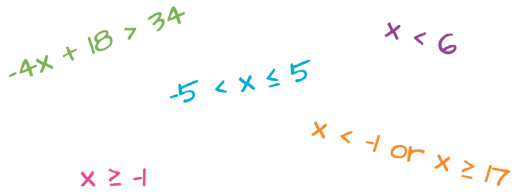
Student Handout

Equation



A mathematical statement that shows that two expressions are equal to each other

Inequality



A mathematical sentence that uses symbols such as <, ≤, >, or ≥ to compare two quantities

Solution

$$-4x + 18 = 34$$
$$x = -4 \leftarrow$$

Any number that makes an equation true

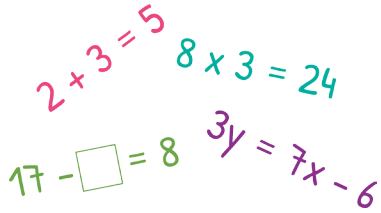
Variable

$$6x + 8y = 54$$

Variables

A letter or symbol that takes the place of a number that can change; a letter that can stand for an unknown number or a set of numbers

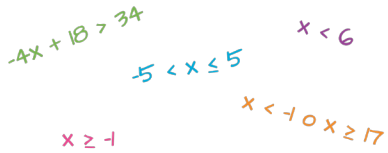
Ecuación



Enunciado matemático que muestra que dos expresiones son iguales entre sí

2

Desigualdad



Oración matemática que usa símbolos como <, ≤, > o ≥ para comparar dos cantidades

Solución

$$-4x + 18 = 34$$
$$x = -4 \leftarrow$$

Cualquier número que hace verdadera una ecuación

4

Variable

$$6x + 8y = 54$$

Variables

Letra o símbolo que toma el lugar de un número que puede cambiar; letra que puede representar un número desconocido o un conjunto de números

5

INTERACTIVE VOCABULARY

Students form definitions of mathematical vocabulary words used throughout the scope.

Preparation

- Print a copy of the Student Handout for each student.

Procedure and Facilitation Points

1. Provide each student with a Student Handout, and ask them to individually think of ideas and to draft their thoughts.
2. Have students confer with partners, share ideas, and formulate more detailed notes together.
3. Meet as a whole class to share student thinking and to clarify any misconceptions. Use student ideas to formulate a class definition with examples. The class definition may be posted as part of a word wall or anchor chart.
4. Tips for use include the following:
    a. Students can reference Interactive Vocabulary when reviewing content, to assist with precision when verbally communicating their mathematical thinking during group work and Math Chats, and when writing about their mathematical thinking.
    b. Students can add Interactive Vocabulary to their Interactive Notebooks.
    c. Teachers can assign Interactive Vocabulary as an independent assignment for students to complete at home.
    d. Students may take their Interactive Vocabulary home at the end of the year as a record of their learning.

Student Handout

teractive Vocabulary

n:

Example of Student Responses

A number with exactly two factors, one and itself, that can only form one type of rectangular array

Prime Number

Examples:

3 and 5

Only one type of rectangular array can be formed for each of these numbers:

1 by 3

Factors of 3: 1, 3

1 by 5

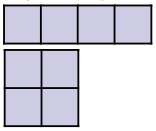
Factors of 5: 1, 5

Nonexamples:

4 and 6

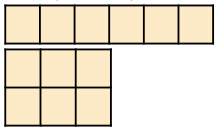
More than one type of rectangular array can be formed for these numbers:

1 by 4 and 2 by 2



Factors of 4: 1, 2, 4

1 by 6 and 2 by 3



Factors of 6: 1, 2, 3, 6

e los estudiantes

y el mismo número, que puede formar

Ejemplos:

3 y 5

Solamente un tipo de matriz rectangular se puede formar para cada uno de estos números:

1 por 3

Factores de 3: 1, 3

1 por 5

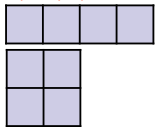
Factores de 5: 1, 5

No ejemplos:

4 y 6

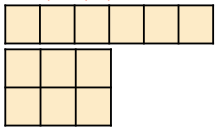
Más de un tipo de matrices rectangulares se puede formar para estos números:

1 por 4 y 2 por 2



Factores de 4: 1, 2, 4

1 por 6 y 2 por 3

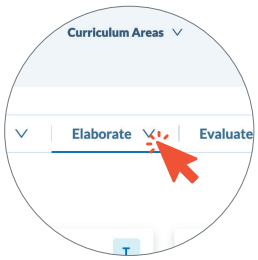


Factores de 6: 1, 2, 3, 6

Home | Engage | Explore | Explain | **Elaborate** | Evaluate | Intervention | Acceleration

Elaborate

NAVIGATION STEPS



Click Elaborate

Click on Elaborate in the White Menu Bar

Review Content

Use the Dropdown to Review Elaborate Content

Learning math requires a personalized approach. Each lesson's **Elaborate** section offers various resources and activities to differentiate instruction and deepen understanding of diverse learners. This section is ideal for small group instruction, center and station activities, and independent practice.

FLUENCY BUILDER - TWO-STEP EQUATIONS AND INEQUALITIES

In this activity, students will play a game of Fix the Mistake!

Preparation

- Make double-sided copies of the Fix the Mistake! Cards.
- Laminate the cards for durability.
- Cut out individual cards, and place them in an envelope or resealable bag for easy distribution and cleanup.
- Print a Fix the Mistake! Student Recording Sheet for each student.
- Print a Fix the Mistake! Answer Key for each pair of students. Fold the answer key so that the answers are covered but the title shows at the top of the page.
- Put students in pairs.

Procedure and Facilitation Points

1. Show students how to shuffle the cards and place them facedown in a stack.
2. Model how to play the game with a student.
    a. Shuffle the cards, and place them facedown in a stack between the players.
    b. Player 1 flips over one card. Both players analyze the problem and determine if the provided solution to the problem is correct and the student who answered it is a math expert or if the solution is incorrect and it is necessary to fix the mistake.
    c. Players take turns flipping over one card at a time.
    d. Players continue taking turns until all of the cards have been solved.
    e. Players should fill out the Fix the Mistake! Student Recording Sheet as they play the game. (Players should fill out the row on the Fix the Mistake! Student Recording Sheet that corresponds to each card number.)
    f. Once all of the cards have been analyzed, students use the Fix the Mistake! Answer Key to check their answers.
    g. The player with the most correct answers is the winner.
3. Distribute the game materials. Then, instruct students to shuffle the cards and lay them facedown in a stack between the players.
4. Monitor students to make sure they find and record accurate responses to each card using the Fix the Mistake! Student Recording Sheet.

Fix the Mistake! Cards

ncy Builder

Fix the Mistake! Cards
(Front of Page 1)

1

What is the solution to this equation?

$2.5x + 10 = -25$

$2.5x + 10 = -25$
$-10 \quad -10$
$\frac{2.5x}{2.5} = \frac{-35}{2.5}$

$x = -14$

2

What is the solution to this equation?

$2x - 9 = -8$

$2x - 9 = -8$
$+9 \quad +9$
$\frac{2x}{2} = \frac{-17}{2}$

$x = -8.5$

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ler

l juego *¡Corrige el error!*
te de la página 1)

de esta ecuación?

$2.5x + 10 = -25$

$2.5x + 10 = -25$
$-10 \quad -10$
$\frac{2.5x}{2.5} = \frac{-35}{2.5}$

$x = -14$

de esta ecuación?

$2x - 9 = -8$

$9 = -8$
$9 \quad -9$
$\frac{2x}{2} = \frac{-17}{2}$

$x = -8.$

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Instruction Sheet

ncy Builder

Fix the Mistake! Instruction Sheet

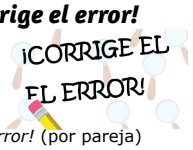
Play this game with a partner.

You Will Need
1 Set of Fix the Mistake! Cards (per pair)
1 Fix the Mistake! Student Recording Sheet (per student)
1 Fix the Mistake! Answer Key (per pair)

How to Play
1. Shuffle the cards, and place them facedown in a stack between the players.
2. Player 1 flips over one card. Both players analyze the problem and determine if the provided solution to the problem is correct and the student who answered it is a math expert or if the solution is incorrect and it is necessary to fix the mistake.
3. Players take turns flipping over one card at a time.
4. Players continue taking turns until all of the cards have been solved.
5. Players should fill out the Fix the Mistake! Student Recording Sheet as they play the game. (Players should fill out the row on the Fix the Mistake! Student Recording Sheet that corresponds to each card number.)
6. Once all of the cards have been analyzed, students use the Fix the Mistake! Answer Key to check their answers.
7. The player with the most correct answers is the winner.

Fluency Builder

Hoja de instrucciones de *¡Corrige el error!*



gar en pareja.

s del juego *¡Corrige el error!* (por pareja)
¡Corrige el error! (por estudiante)
de *¡Corrige el error!* (por pareja)

uego
tas y colócalas boca abajo en una pila en
gadores.
tea una tarjeta. Ambos jugadores analizan el
rminan si la solución proporcionada al
recta y el estudiante que la contestó es un
emáticas o si la solución es incorrecta y es
ir el error.
e turnan para voltear una tarjeta a la vez.
marán turnos hasta que se hayan resuelto
s.
eben completar la hoja de registro de *¡Corrige*
diante mientras juegan (los jugadores deben
de la hoja de registro de *¡Corrige el error!* del
corresponde a cada número de tarjeta).
han analizado todas las tarjetas, los
la hoja de respuestas de *¡Corrige el error!*
s respuestas.
nás respuestas correctas es el ganador.

SPIRALED REVIEW - PLANET E

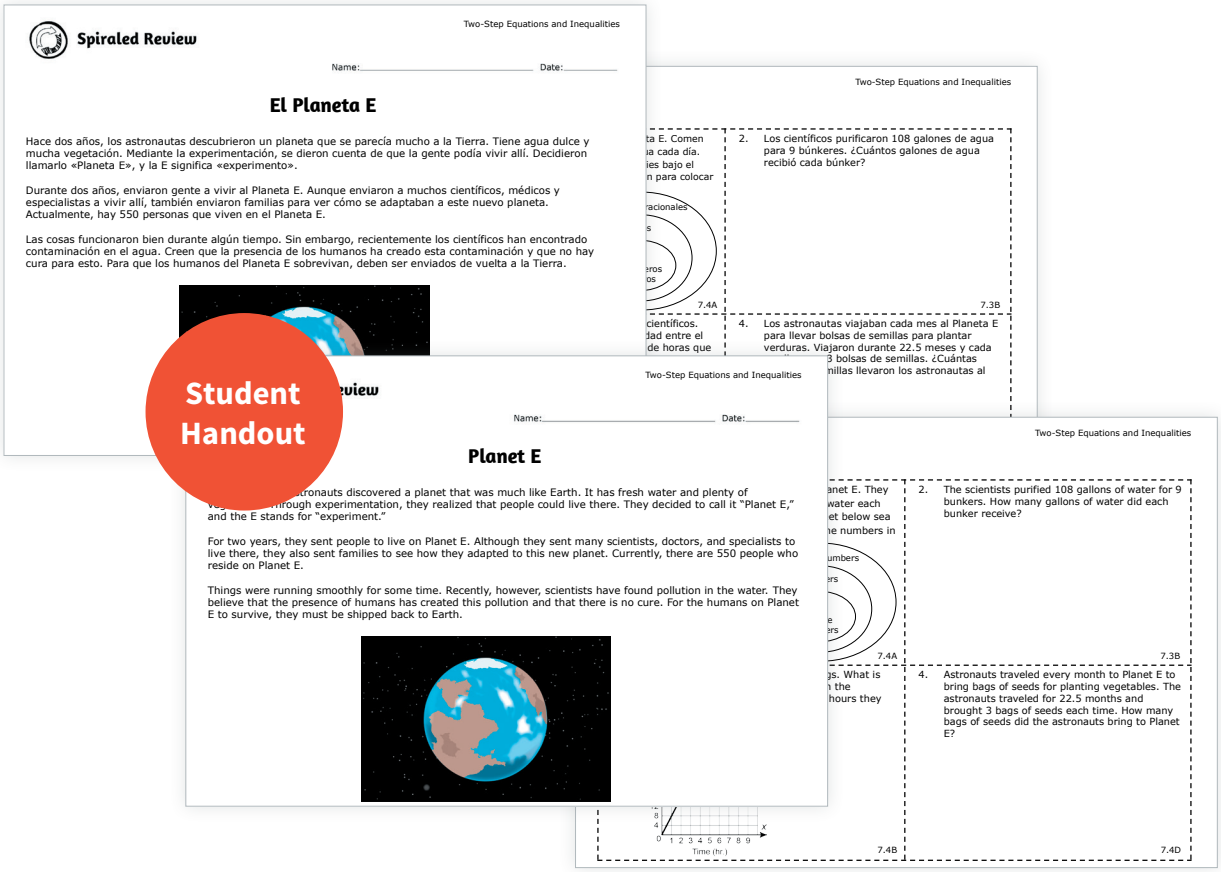
Students will review concepts and material from previous math classes and scopes to help support their work in the current scope and strengthen the skills that will be needed for later scopes.

Preparation

- Print a Student Handout for each student.

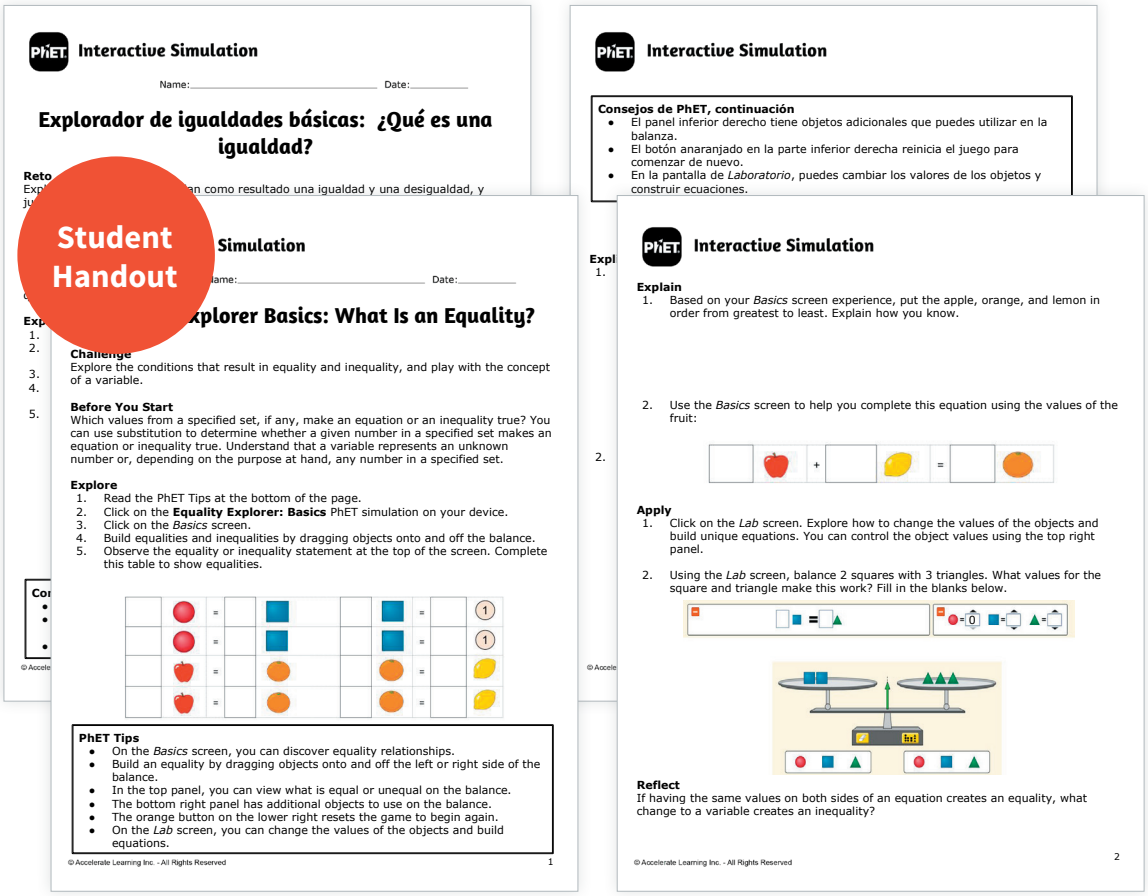
Procedure and Facilitation Points

1. Encourage students to try the questions independently without using outside resources to see what they know. Invite them to write down ideas or any fragments they remember about the topics that they were previously taught. Acknowledge that on this Student Handout, and in math class, mistakes are welcomed.
2. Use this Spiraled Review as a warm-up in class, or send it home for homework, but be sure to provide feedback and opportunities for students to correct their work and further solidify their prior knowledge.
3. Refer to the Spiraled Review Focus by Question section to assess students' content knowledge or need for further intervention. Use the Fluency Builders in the appropriate scopes if more review is necessary.
4. The Capstone includes one part from the current scope so that students see the connection and relevance of their prior learning within the current scope.



PHET - EQUALITY EXPLORER BASICS: WHAT IS AN EQUALITY?

Challenge: Explore the conditions that result in equality and inequality, and play with the concept of a variable.



Interactive Simulation

Name: _____ Date: _____

Explorador de igualdades básicas: ¿Qué es una igualdad?

Student Handout

Interactive Simulation

Name: _____ Date: _____

Explorer Basics: What Is an Equality?

Challenge
Explore the conditions that result in equality and inequality, and play with the concept of a variable.

Before You Start
Which values from a specified set, if any, make an equation or an inequality true? You can use substitution to determine whether a given number in a specified set makes an equation or inequality true. Understand that a variable represents an unknown number or, depending on the purpose at hand, any number in a specified set.

Explore
1. Read the PhET Tips at the bottom of the page.
2. Click on the **Equality Explorer: Basics** PhET simulation on your device.
3. Click on the *Basics* screen.
4. Build equalities and inequalities by dragging objects onto and off the balance.
5. Observe the equality or inequality statement at the top of the screen. Complete this table to show equalities.

PhET Tips
- On the *Basics* screen, you can discover equality relationships.
- Build an equality by dragging objects onto and off the left or right side of the balance.
- In the top panel, you can view what is equal or unequal on the balance.
- The bottom right panel has additional objects to use on the balance.
- The orange button on the lower right resets the game to begin again.
- On the *Lab* screen, you can change the values of the objects and build equations.

 1

Consejos de PhET, continuación
- El panel inferior derecho tiene objetos adicionales que puedes utilizar en la balanza.
- El botón anaranjado en la parte inferior derecha reinicia el juego para comenzar de nuevo.
- En la pantalla de *Laboratorio*, puedes cambiar los valores de los objetos y construir ecuaciones.

Interactive Simulation

Explain
1. Based on your *Basics* screen experience, put the apple, orange, and lemon in order from greatest to least. Explain how you know.

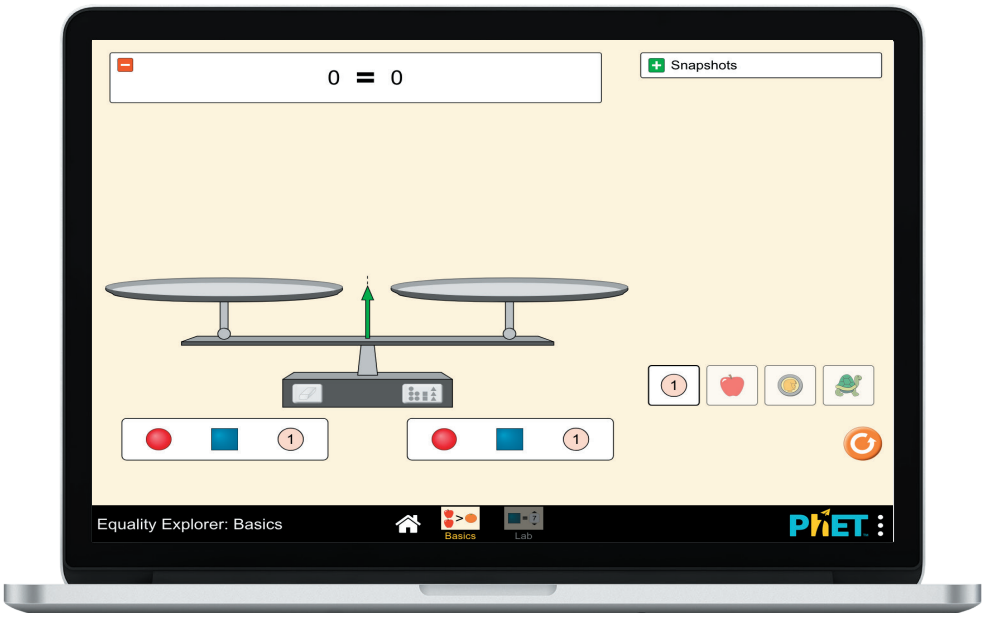
2. Use the *Basics* screen to help you complete this equation using the values of the fruit:

Apply
1. Click on the *Lab* screen. Explore how to change the values of the objects and build unique equations. You can control the object values using the top right panel.

2. Using the *Lab* screen, balance 2 squares with 3 triangles. What values for the square and triangle make this work? Fill in the blanks below.

Reflect
If having the same values on both sides of an equation creates an equality, what change to a variable creates an inequality?

 2

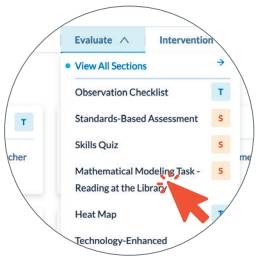


Evaluate

NAVIGATION STEPS

Click Evaluate

Click on Evaluate in the White Menu Bar



Review Content

Use the Dropdown to Review Evaluate Content

Assessments are intentionally integrated so that you can **evaluate** student progress and mastery. Collect data through TEKS-aligned assessments, along with student self-reflections and performance tasks.

OBSERVATION CHECKLIST

Diagnostic Formative

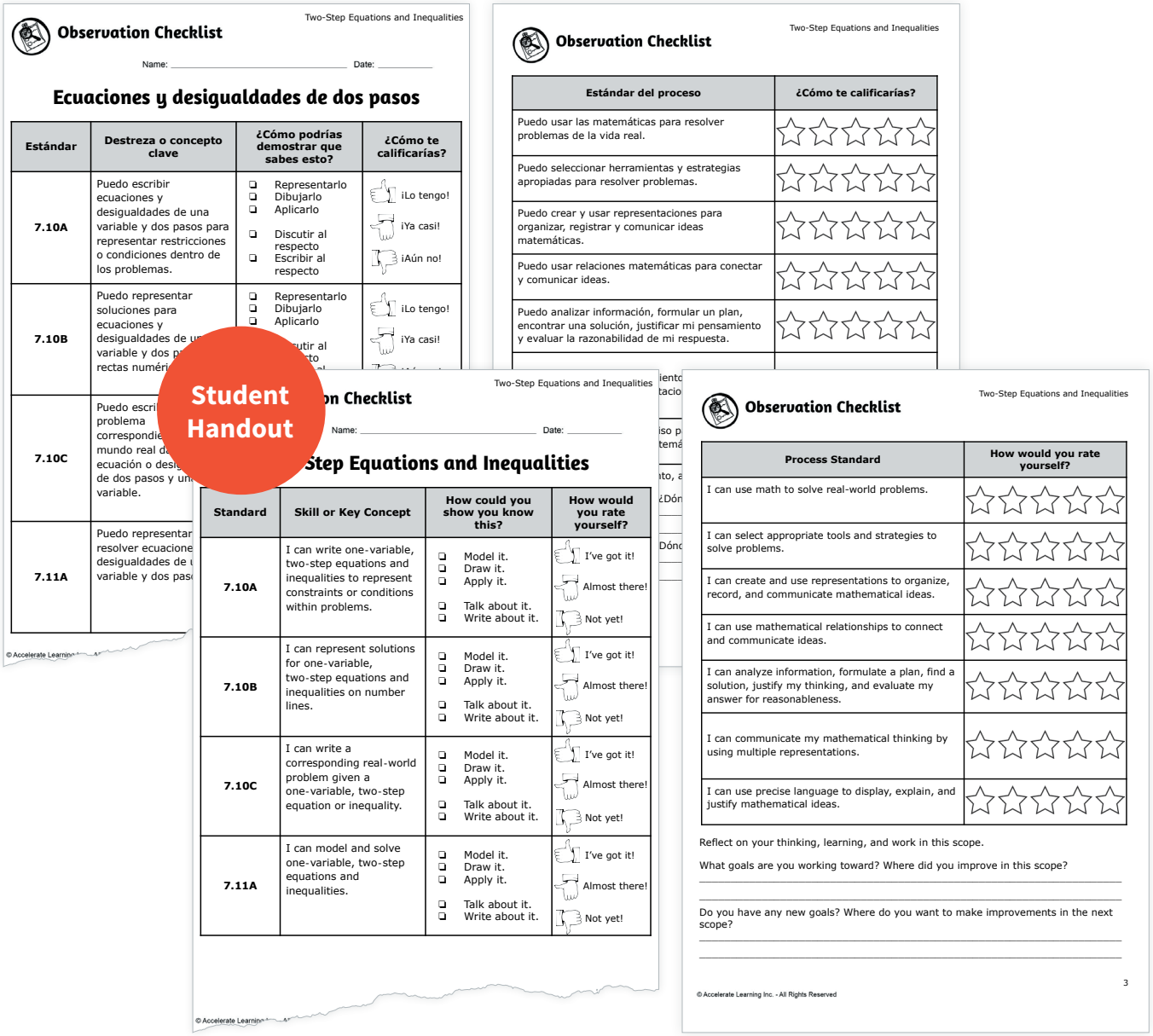
This element provides a breakdown of the key concepts and skills in the scope. It can be used as a formative assessment for teachers and as a self-assessment for students.

Preparation

- Print a Teacher Handout and Student Handout for each student.

Procedure and Facilitation Points

1. Distribute a Student Handout to each student.
2. As students are working through the Explore and Explain activities in the scope, formatively assess their progress by taking anecdotal notes on how key concepts and skills were observed. Reflection questions can be considered to measure the impact of whole-group and small-group activities.
3. Have students reflect on ways they can demonstrate their understanding and self-assess their progress on each key concept or skill as they work through both whole-group and small-group activities.
4. Students can reflect on their thinking, learning, and work in the scope; identify ways they have improved; and establish new learning goals.
5. Colleagues who provide instructional support to students can be equipped with the accommodations and modifications noted on the Teacher Handout.
6. Anecdotal notes provided on the Teacher Handout can be used as documentation for standards-based report cards.



Two-Step Equations and Inequalities

Observation Checklist

Name: _____ Date: _____

Ecuaciones y desigualdades de dos pasos

Estándar	Destreza o concepto clave	¿Cómo podrías demostrar que sabes esto?	¿Cómo te calificarías?
7.10A	Puedo escribir ecuaciones y desigualdades de una variable y dos pasos para representar restricciones o condiciones dentro de los problemas.	❑ Representarlo ❑ Dibujarlo ❑ Aplicarlo ❑ Discutir al respecto ❑ Escribir al respecto	¡Lo tengo! ¡Ya casi! ¡Aún no!
7.10B	Puedo representar soluciones para ecuaciones y desigualdades de u… variable y dos p… rectas numéri…	❑ Representarlo ❑ Dibujarlo ❑ Aplicarlo ❑ …utir al …to ❑ … al	¡Lo tengo! ¡Ya casi!
7.10C	Puedo escri… problema correspondie… mundo real d… ecuación o desi… de dos pasos y un… variable.		
7.11A	Puedo representar… resolver ecuacione… desigualdades de … variable y dos pas…		

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Two-Step Equations and Inequalities

Observation Checklist

Estándar del proceso	¿Cómo te calificarías?
Puedo usar las matemáticas para resolver problemas de la vida real.	☆☆☆☆☆
Puedo seleccionar herramientas y estrategias apropiadas para resolver problemas.	☆☆☆☆☆
Puedo crear y usar representaciones para organizar, registrar y comunicar ideas matemáticas.	☆☆☆☆☆
Puedo usar relaciones matemáticas para conectar y comunicar ideas.	☆☆☆☆☆
Puedo analizar información, formular un plan, encontrar una solución, justificar mi pensamiento y evaluar la razonabilidad de mi respuesta.	☆☆☆☆☆

Student Handout

Two-Step Equations and Inequalities

…n Checklist

Name: _____ Date: _____

…Step Equations and Inequalities

Standard	Skill or Key Concept	How could you show you know this?	How would you rate yourself?
7.10A	I can write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.	❑ Model it. ❑ Draw it. ❑ Apply it. ❑ Talk about it. ❑ Write about it.	I've got it! Almost there! Not yet!
7.10B	I can represent solutions for one-variable, two-step equations and inequalities on number lines.	❑ Model it. ❑ Draw it. ❑ Apply it. ❑ Talk about it. ❑ Write about it.	I've got it! Almost there! Not yet!
7.10C	I can write a corresponding real-world problem given a one-variable, two-step equation or inequality.	❑ Model it. ❑ Draw it. ❑ Apply it. ❑ Talk about it. ❑ Write about it.	I've got it! Almost there! Not yet!
7.11A	I can model and solve one-variable, two-step equations and inequalities.	❑ Model it. ❑ Draw it. ❑ Apply it. ❑ Talk about it. ❑ Write about it.	I've got it! Almost there! Not yet!

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Two-Step Equations and Inequalities

Observation Checklist

Process Standard	How would you rate yourself?
I can use math to solve real-world problems.	☆☆☆☆☆
I can select appropriate tools and strategies to solve problems.	☆☆☆☆☆
I can create and use representations to organize, record, and communicate mathematical ideas.	☆☆☆☆☆
I can use mathematical relationships to connect and communicate ideas.	☆☆☆☆☆
I can analyze information, formulate a plan, find a solution, justify my thinking, and evaluate my answer for reasonableness.	☆☆☆☆☆
I can communicate my mathematical thinking by using multiple representations.	☆☆☆☆☆
I can use precise language to display, explain, and justify mathematical ideas.	☆☆☆☆☆

Reflect on your thinking, learning, and work in this scope.

What goals are you working toward? Where did you improve in this scope?

_____

_____

Do you have any new goals? Where do you want to make improvements in the next scope?

_____

_____

3

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STANDARDS-BASED ASSESSMENT

Summative

Students demonstrate mastery of the key concepts and skills in the scope through a standards-based summative assessment.

Preparation

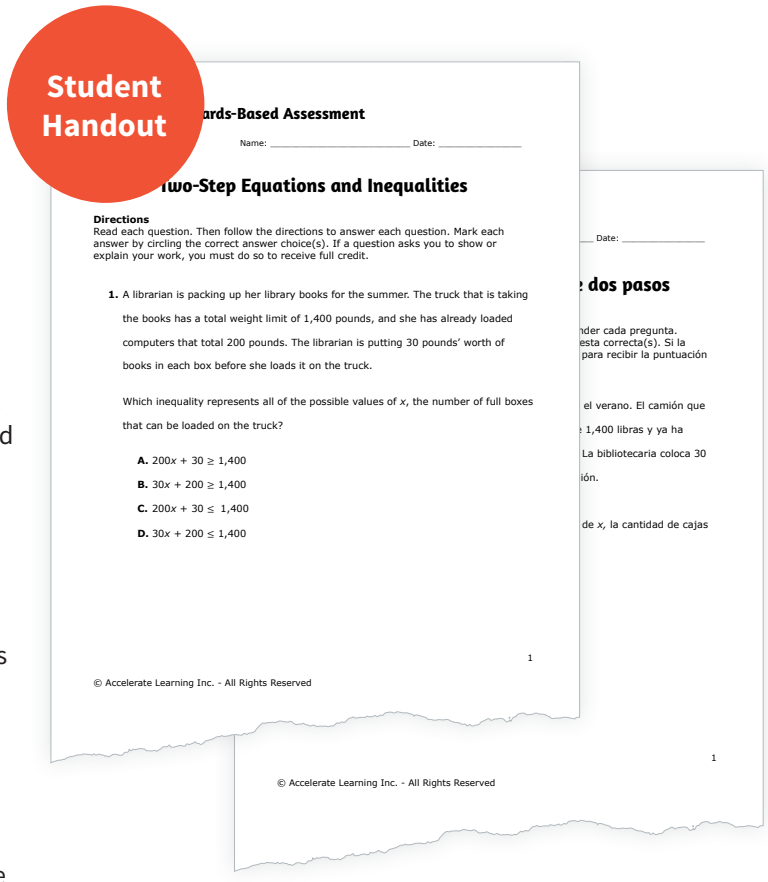
- Print a Student Handout for each student. The Student Handout can also be assigned digitally.
- Allow students to use manipulatives by request.
- Prepare Supplemental Aids for students who meet eligibility criteria.

Procedure and Facilitation Points

1. Distribute the Student Handout to each student.
2. Prompt students to show what they know in completing the assessment.
3. Allow students to reflect on their performances using the Heat Map.
4. Once student data has been collected after the assessment, refer to the Scaffolded Instruction Guide in the Home section of this scope to differentiate instruction for each student.

Tips and Tricks

- This element can be used as an assessment of learning and is intended to be assigned to students independently at their seats.
- Allow students to work with partners to review and rework problems they may have missed. Provide assistance as needed.
- The questions from this assessment can be found in the Assessment Bank and can be used to build a customized assessment.
- For test prep, print the Standards-Based Assessment, and cut out individual problems. Hang the problems along with chart paper around the classroom. Allow students to rotate through and solve each problem with partners. Challenge students to review the strategies already on the chart paper and use a different representation.
- The data from this assessment can be used to provide specific support and intervention.



SKILLS QUIZ

Formative Summative

Skills Quiz is a short, standards-based formative assessment to determine student mathematical fluency with the key concepts and skills in the scope.

Preparation

- Print a Student Handout for each student. The Student Handout can also be assigned digitally.
- Allow students to use manipulatives by request.
- Prepare Supplemental Aids for students who meet eligibility criteria.

Procedure and Facilitation Points

1. Distribute the Student Handout to each student.
2. Prompt students to show what they know in completing the assessment.
3. Allow students to reflect on their performances using the Heat Map.
4. Once student data has been collected after the assessment, refer to the Scaffolded Instruction Guide in the Home section of this scope to differentiate instruction for each student.

Tips and Tricks

- This element can be used as an assessment for learning and can be assigned to students to complete independently at their seats or as part of a workstation.
- For kindergarten and first grade, this element can be used as a one-on-one assessment or a guided small-group task to check for mastery of the standards.
- This element is a perfect opportunity to have a one-on-one conference with each student to discuss their performance, and it can be used as a foundation for setting individualized goals.
- The data from this assessment can be used to provide specific support and intervention.
- A Skills Quiz from a previous unit can also be used as a spiral review.

Skills Quiz

Name: _____ Date: _____

Ecuaciones y desigualdades de dos pasos

Resuelve cada problema. Muestra o explica tu razonamiento matemático.

1. Selecciona el valor de w que hace verdadera la desigualdad.

$$\frac{1}{2}w + 4 \geq 15$$

A. 20

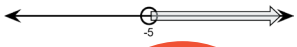
B. 22

C. −22

D. 19

2. ¿Qué recta numérica empareja con la desigualdad $y < -5$?

A.



B.

C.

D.

Skills Quiz

3. Resuelve por x.

$$-5x - 8 = 22.5$$

4. Determina cuál de los valores dados es una solución de la ecuación.

$$4k + 18 = 66$$

A. 10

B. 16.5

C. 12

D. 21

5. ¿Qué desigualdad tiene solución en $x > -5.5$?

A. $5 - x < 6$

B. $2x + 7 > -4$

C. $-4x - 9 \leq 4$

Student Handout

Quiz

Name: _____ Date: _____

Two-Step Equations and Inequalities

Solve each problem. Show or explain your mathematical thinking.

1. Select the value of w that makes the inequality true.

$$\frac{1}{2}w + 4 \geq 15$$

A. 20

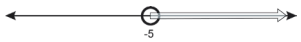
B. 22

C. −22

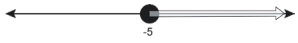
D. 19

2. Which number line matches the inequality $y < -5$?

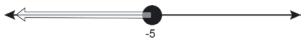
A.



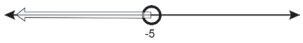
B.



C.



D.



Skills Quiz

3. Solve for x.

$$-5x - 8 = 22.5$$

4. Determine which, if any, of the given values is a solution to the equation.

$$4k + 18 = 66$$

A. 10

B. 16.5

C. 12

D. 21

5. Which inequality has a solution of $x > -5.5$?

A. $5 - x < 6$

B. $2x + 7 > -4$

C. $-4x - 9 \leq 4$

D. $10 - 5x \geq 40$

MATHEMATICAL MODELING TASK - READING AT THE LIBRARY

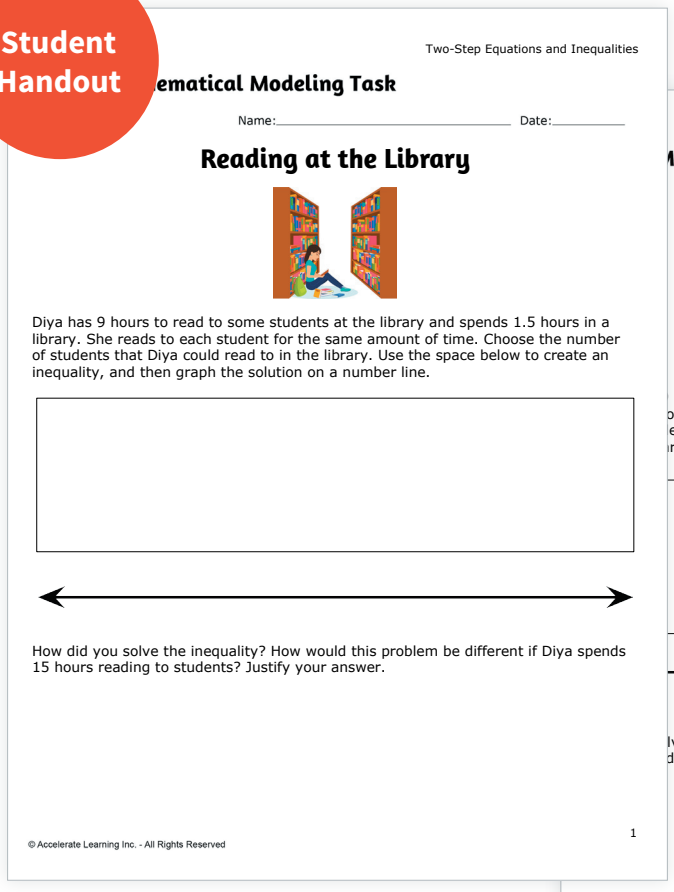
Formative Summative

Students work collaboratively and use mathematical tools and methods to answer questions about real-world situations.

Procedure and Facilitation Points

1. Allow students to work in groups.
2. Encourage students to look back at their Student Journals from the Explore activities if they need to review the skills they have learned.
3. If students are stuck, use guiding questions to help them think through it without telling them what steps to take next. If time permits, allow each group to share its solution with the class.
4. Discuss how different groups tackled the challenge in different ways.

Student Handout



Two-Step Equations and Inequalities

ematical Modeling Task

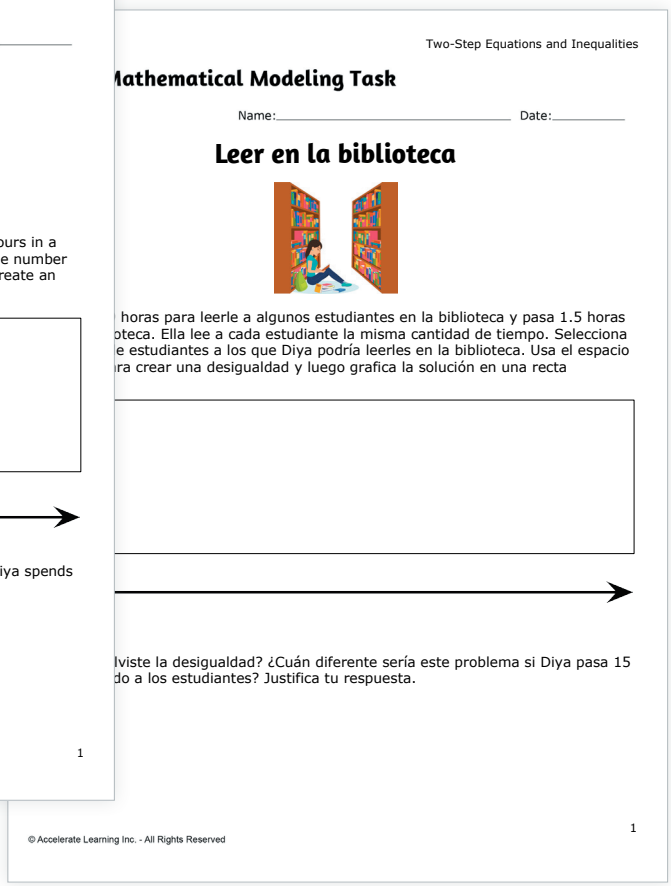
Name:_____ Date:_____

Reading at the Library

Diya has 9 hours to read to some students at the library and spends 1.5 hours in a library. She reads to each student for the same amount of time. Choose the number of students that Diya could read to in the library. Use the space below to create an inequality, and then graph the solution on a number line.

How did you solve the inequality? How would this problem be different if Diya spends 15 hours reading to students? Justify your answer.

1



Two-Step Equations and Inequalities

Mathematical Modeling Task

Name:_____ Date:_____

Leer en la biblioteca

horas para leerle a algunos estudiantes en la biblioteca y pasa 1.5 horas
oteca. Ella lee a cada estudiante la misma cantidad de tiempo. Selecciona
e estudiantes a los que Diya podría leerles en la biblioteca. Usa el espacio
ra crear una desigualdad y luego grafica la solución en una recta

lviste la desigualdad? ¿Cuán diferente sería este problema si Diya pasa 15
do a los estudiantes? Justifica tu respuesta.

1

HEAT MAP

Student Self-Reflection

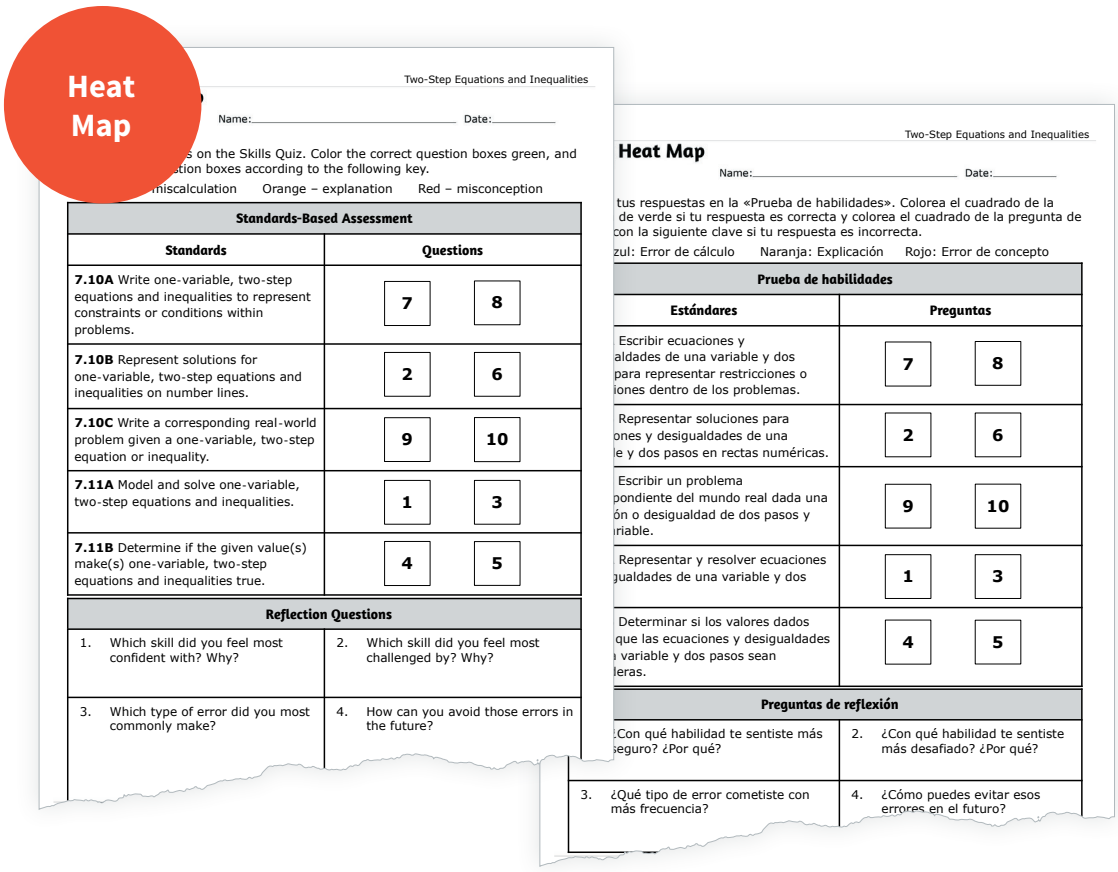
Students analyze their assessment results and determine what they did well and where they can improve.

Preparation

- Determine if students will analyze their Skills Quiz, Standards-Based Assessment, or both.
- Print a Heat Map for each student.
- Gather a red crayon and a green crayon for each student.

Procedure and Facilitation Points

1. Distribute a Heat Map to each student along with red and green crayons. Students should have their graded assessment(s) available.
2. Students use their graded assessment(s) to color-code the Heat Map. For each question answered correctly, students color the corresponding box green. For each question answered incorrectly, students color the corresponding box red.
3. Encourage students to look for patterns in their data, such as a certain standard that was missed more frequently or a standard they have clearly mastered, and use this information to reflect and set goals in the provided table.
4. Refer to the Scaffolded Instruction Guide found in the Home section to provide extension or additional support.



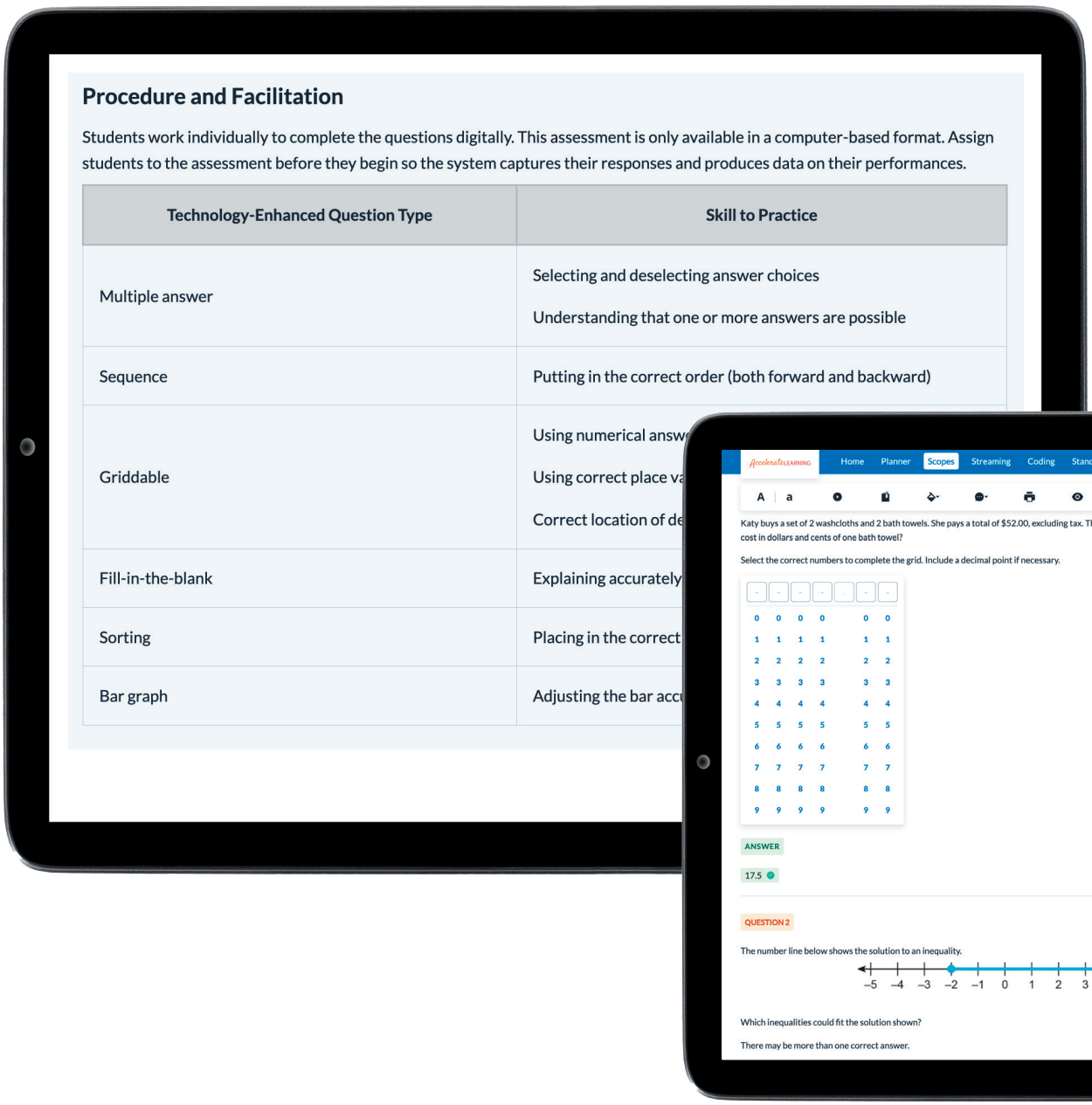
TECHNOLOGY-ENHANCED QUESTIONS

Summative

Technology-Enhanced Questions are designed to allow students to answer question types that are not possible in a paper/pencil format. These computer-based questions use formats that allow for non-conventional question types, including multiple answer, sequence, griddable, fill-in-the-blank, sorting, and bar graph.

Procedure and Facilitation Points

1. Students work individually to complete the questions digitally. This assessment is only available in a computer-based format. Assign students to the assessment before they begin so the system captures their responses and produces data on their performances.



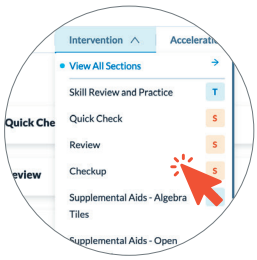
Home | Engage | Explore | Explain | Elaborate | Evaluate | **Intervention** | Acceleration

Intervention

NAVIGATION STEPS

Click Intervention

Click on Intervention in the White Menu Bar



Review Content

Use the Dropdown to Review Intervention Content

Unleash the power of hands-on learning to provide targeted instruction and tackle conceptual misunderstandings head-on! Perfect for **intervention**, re-teaching, or test preparation, these dynamic resources are your go-to tools for transforming math challenges into triumphs in the classroom.

SKILL REVIEW AND PRACTICE

Formative

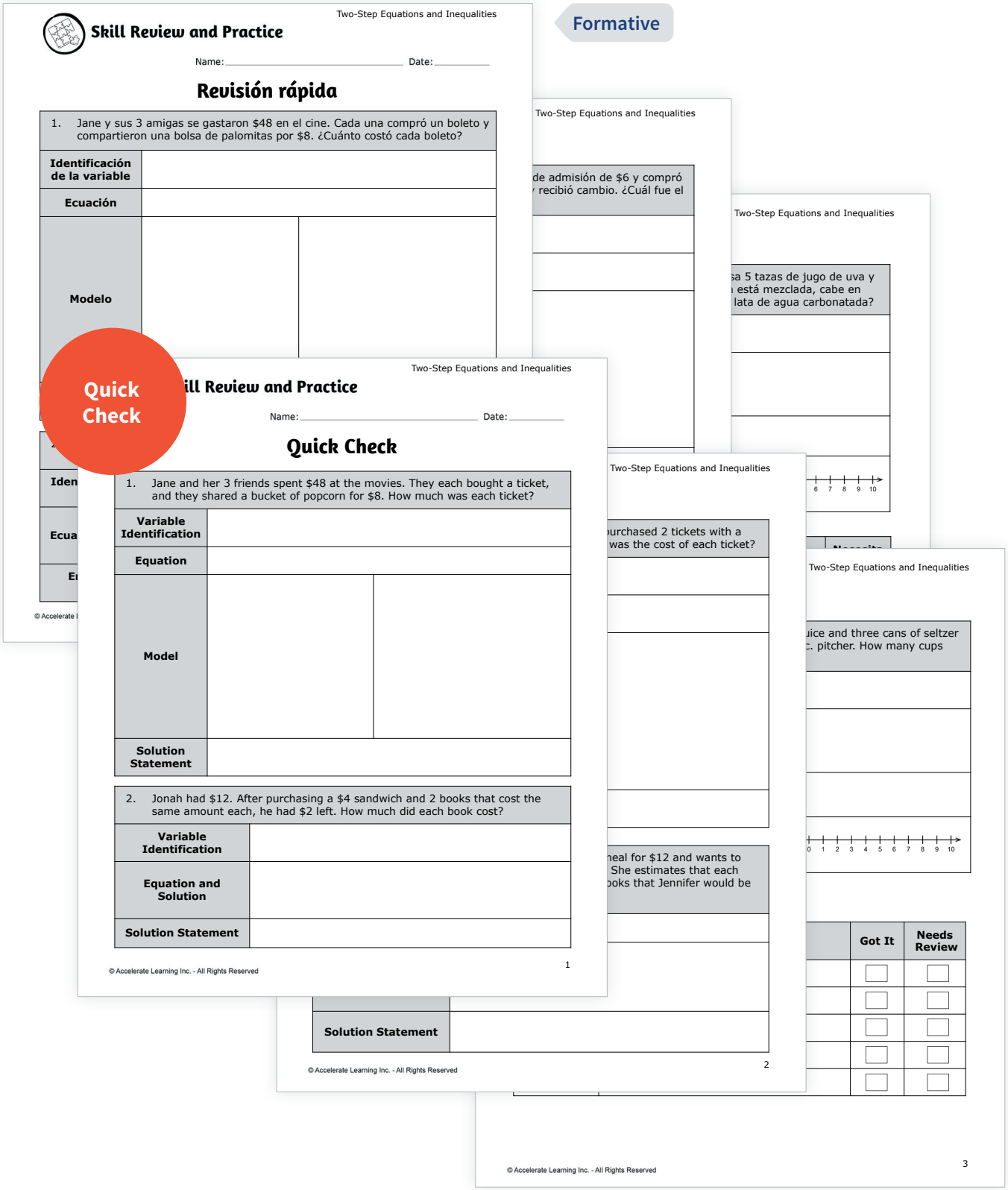
This activity is designed to review the key concepts of the scope. Use it as a review or for intervention.

Preparation

- Print a copy of Quick Check, Review, and Checkup for each student.
- Optionally, place students in groups of 3 or 4 to complete the Review.
- Optionally, print an example Anchor Chart from the Explain section, or have students use Interactive Notebook as a resource.
- Optionally, print any of the supplemental aid materials for students to use as they work.

Procedure and Facilitation Points

1. Distribute a copy of Quick Check to each student.
2. Each student should complete the Quick Check independently.
3. Use the skill rubric at the end of the Quick Check to identify which students require additional help on the skills.
4. Distribute a copy of Review to each student.
5. Each student should complete the Review either as an intervention activity or an independent activity.
    a. Optionally, pull students into a small group to work on review skills. Use the Review to assist in reteaching.
6. Distribute a copy of Checkup to each student.
7. Each student should complete the Checkup independently.
8. Analyze the Checkup results using the Teacher Checklist to identify which students require additional review and which students have reached mastery of the concepts.


Formative
Two-Step Equations and Inequalities
Skill Review and Practice
Name: Date:
Revisión rápida
1. Jane y sus 3 amigas se gastaron $48 en el cine. Cada una compró un boleto y compartieron una bolsa de palomitas por $8. ¿Cuánto costó cada boleto?
Identificación de la variable
Ecuación
Modelo
Quick Check
Two-Step Equations and Inequalities
Skill Review and Practice
Name: Date:
Quick Check
1. Jane and her 3 friends spent $48 at the movies. They each bought a ticket, and they shared a bucket of popcorn for $8. How much was each ticket?
Variable Identification
Equation
Model
Solution Statement
2. Jonah had $12. After purchasing a $4 sandwich and 2 books that cost the same amount each, he had $2 left. How much did each book cost?
Variable Identification
Equation and Solution
Solution Statement
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1
Two-Step Equations and Inequalities
Solution Statement
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2
Two-Step Equations and Inequalities
Got It
Needs Review
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3

Formative

Review

Two-Step Equations and Inequalities

Skill Review and Practice

Name:_____ Date:_____

Repasar

Ecuaciones de dos pasos
Una variable es una letra o símbolo que sustituye a un número. El signo de igualdad es un símbolo que se usa para mostrar que dos cantidades o expresiones son iguales. El signo igual puede estar en cualquier lado de una expresión. Una ecuación es cualquier combinación de números, operaciones, variables y un signo igual. Una ecuación representa los pasos necesarios para resolver un problema.

Ejemplo: Bebidas: Parte 1 - El costo de 2 bebidas pequeñas y 1 bebida grande es de $9. La bebida grande cuesta $4. ¿Cuál es el costo de una bebida pequeña?

Deja que la variable *s* represente el costo de una bebida pequeña.

Ecuación: $2s + 4 = 9$

Inténtalo

El costo de 3 bebidas medianas y 1 bebida grande es de $13.60. La bebida grande cuesta $9. ¿Cuál es el costo de una bebida mediana?	
Identificación de la variable	
Ecuación	

Two-Step Equations and Inequalities

Skill Review and Practice

Escribir problemas del mundo real al usar ecuaciones y desigualdades de dos pasos
Los problemas del mundo real representados con un signo igual se llaman ecuaciones.

Ejemplo: Escribe un problema del mundo real que represente la siguiente ecuación.

$$5x - 10 = 32$$

Una tienda vende una camisa por 5 veces el costo al por mayor, menos $10. La tienda vende la camisa por $32.

Los problemas del mundo real representados con un signo de desigualdad se llaman desigualdades.

Ejemplo: Escribe un problema del mundo real que represente la siguiente desigualdad.

$$21x + 125 > 500$$

Hay 21 miembros en el club de jardinería que intentan recaudar al menos $500 para comprar herramientas de jardinería y productos para su jardín. El club de jardinería ya ha recaudado $125.

Determinar si los valores hacen que las ecuaciones y desigualdades sean verdaderas

Ejemplo: ¿Qué ecuación hace que $x = 6$ sea verdadera?

$2x + 6 = 15$ $2x + 6 = 18$

Inténtalo

Two-Step Equations and Inequalities

Review and Practice

Name:_____ Date:_____

Review

Two-Step Equations
A variable is a letter or symbol that takes the place of a number. An equal sign is a symbol used to show that two quantities or expressions are the same. The equal sign can be on either side of an expression. An equation is any combination of numbers, operations, variables, and an equal sign. An equation represents the problem-solving steps needed to solve a problem.

Example: Drinks: Part 1 – The cost of 2 small drinks and 1 large drink is $9. The large drink costs $4. What is the cost of one small drink?

Let the variable *s* represent the cost of one small drink.

Equation: $2s + 4 = 9$

Try It

The cost of 3 medium drinks and 1 large drink is $13.60. The large drink costs $9. What is the cost of one medium drink?	
Variable Identification	
Equation	

Two-Step Equations and Inequalities

Skill Review and Practice

Write Real-World Problems Using Two-Step Equations and Inequalities
Real-world problems represented with an equal sign are called equations.

Example: Write a real-world problem that represents the equation below.

$$5x - 10 = 32$$

A store sells a shirt for 5 times the wholesale cost minus $10. The store sells a shirt for $32.

Real-world problems represented with an inequality sign are called inequalities.

Example: Write a real-world problem that represents the inequality below.

$$21x + 125 > 500$$

There are 21 members in the gardening club who are trying to raise at least $500 for gardening tools and supplies for their garden. The gardening club has already raised $125.

Determine Whether Given Values Make Equations and Inequalities True

Example: Which equation makes $x = 6$ true?

$2x + 6 = 15$ $2x + 6 = 18$

Try It

1. Write a real-world problem that represents the equation below.

$$4x - 1 = 6$$

2. Circle the equation that makes $x = 4$ true.

$3x + 5 = 17$ $2x + 5 = 15$

Formative

Checkup

Two-Step Equations and Inequalities

Skill Review and Practice

Name:_____ Date:_____

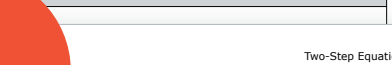
Revisión

Resuelve cada ecuación o desigualdad. Usa fichas de álgebra y tapetes de trabajo según sea necesario.

1. Afiliarse a un gimnasio cuesta $15, más $10 adicionales al mes. Si Marshall tiene $55 para invertir en una afiliación al gimnasio, ¿cuántos meses puede asistir?

Ecuación y solución	
Declaración de la solución	
Conjunto de soluciones gráficas	

2. Un rectángulo tiene un perímetro de 24 centímetros. El ancho del rectángulo es 4 centímetros. ¿Cuál es la longitud del rectángulo?

Ecuación y solución	
Declaración de la solución	
Conjunto de soluciones gráficas	

Two-Step Equations and Inequalities

Skill Review and Practice

5. Escribe un problema del mundo real que represente la siguiente ecuación.

$6x + 7 = 349$

6. Encierra en un círculo la ecuación que hace que $x = -6$ sea verdadera.

A. $2x + 5 = 15$

B. $3x + 6 = -12$

C. $2x + 6 = 12$

D. $2x + 2 = 22$

7. Identifica los valores del conjunto de soluciones que hacen que $3x + 7 \leq 11$ sea verdadera.

Two-Step Equations and Inequalities

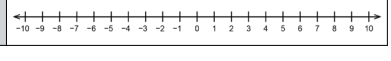
Skill Review and Practice

Name:_____ Date:_____

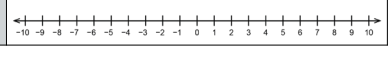
Checkup

Solve each equation or inequality. Use algebra tiles and work mats as needed.

1. It costs $15 to join a gym plus an additional $10 per month. If Marshall has $55 to invest in a gym membership, how many months can he attend?

Equation and Solution	
Solution Statement	
Graphed Solution Set	

2. A rectangle has a perimeter of 24 centimeters. The width of the rectangle is 4 centimeters. What is the length of the rectangle?

Equation and Solution	
Solution Statement	
Graphed Solution Set	

Two-Step Equations and Inequalities

Skill Review and Practice

5. Write a real-world problem that represents the equation below.

$6x + 7 = 349$

6. Circle the equation that makes $x = -6$ true.

A. $2x + 5 = 15$

B. $3x + 6 = -12$

C. $2x + 6 = 12$

D. $2x + 2 = 22$

7. Identify the values from the solution set that make $3x + 7 \leq 11$ true.

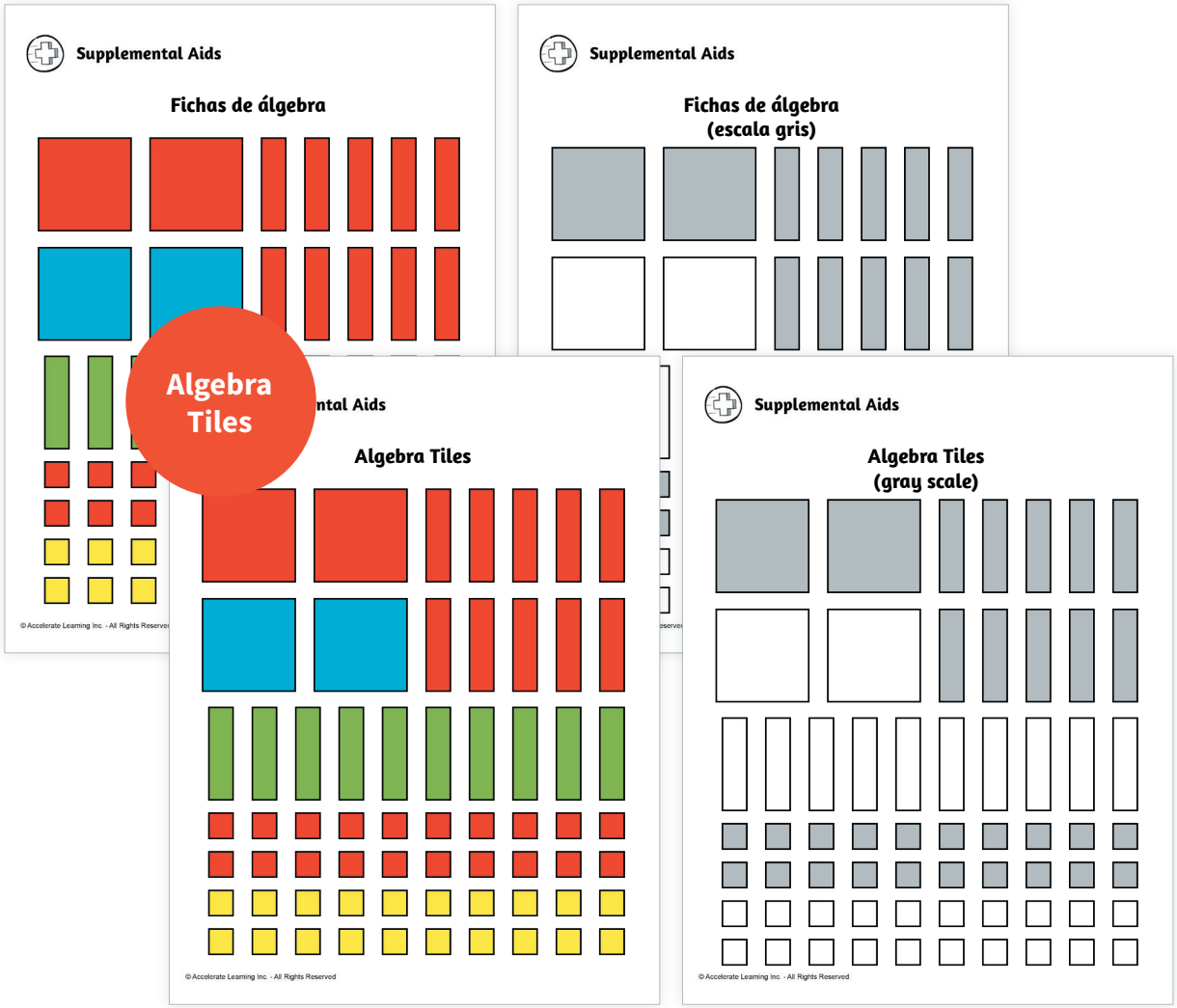
Solution set $\{-4, 0, 2, 8\}$

SUPPLEMENTAL AIDS - ALGEBRA TILES

Students use algebra tiles to practice equations and inequalities concepts.

Procedure and Facilitation Points

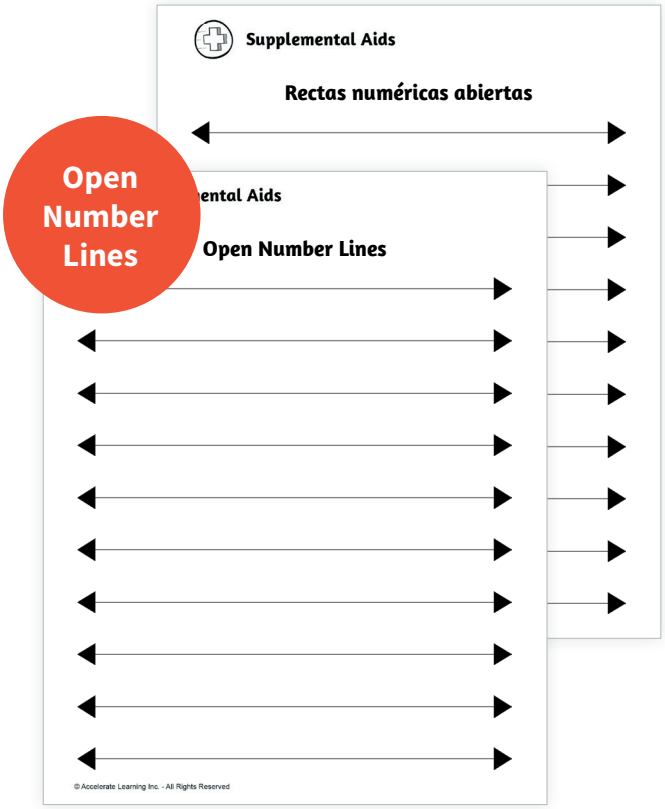
- This Student Handout: Algebra Tiles contains a template for algebra tiles in color and in gray scale. Actual algebra tiles may also be used in its place. Algebra tiles can be used to reinforce the following geometry concepts:
  - Creating equivalent expressions and equations
  - Combining like terms in expressions, equations, and inequalities
  - Solving equations and inequalities
- Have students cut out the individual pieces.
- If possible, laminate the Algebra Tiles so they last longer.



SUPPLEMENTAL AIDS - OPEN NUMBER LINES

Students use an open number line to illustrate a variety of number and operation concepts.

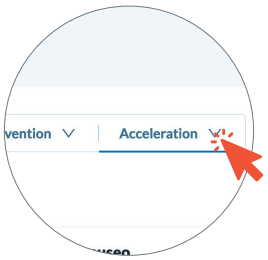
Procedure and Facilitation Points



- Number lines are tools that can be used for a variety of mathematical concepts, including the following:
  - Addition and subtraction
  - Fractions
  - Comparing numbers
  - Ordering numbers
  - Estimation
  - Rational numbers
  - Representing and solving equations and inequalities
  - Graphing data with dot plots and box plots
  - Approximating irrational numbers
- A blank number line can be used as a supplemental aid for students who need assistance visualizing numerical concepts.
- Display the number line provided on the Student Handout that is applicable to the concepts being taught. Model adding hash marks and numbers to the number line as needed. You may also cut the Student Handout: Open Number Lines into strips so that students may write on their own number line.
- If possible, provide a laminated copy of a number line for each student. The students may then use dry-erase markers to use the number line in a variety of problems.
- During assessments, encourage students to draw a number line at the top of their paper or notebook as a strategy to solve problems.

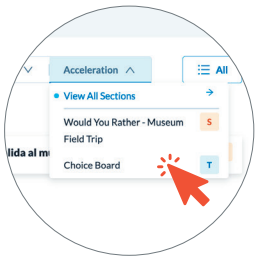
Acceleration

NAVIGATION STEPS



Click Acceleration

Click on Acceleration in the White Menu Bar



Review Content

Use the Dropdown to Review Acceleration Content

Acceleration activities allow students to dive deeper into the content and its applications, enhancing their understanding and engagement. These enrichment activities are designed for all students, providing opportunities to explore advanced concepts and develop critical thinking skills.

CHOICE BOARD

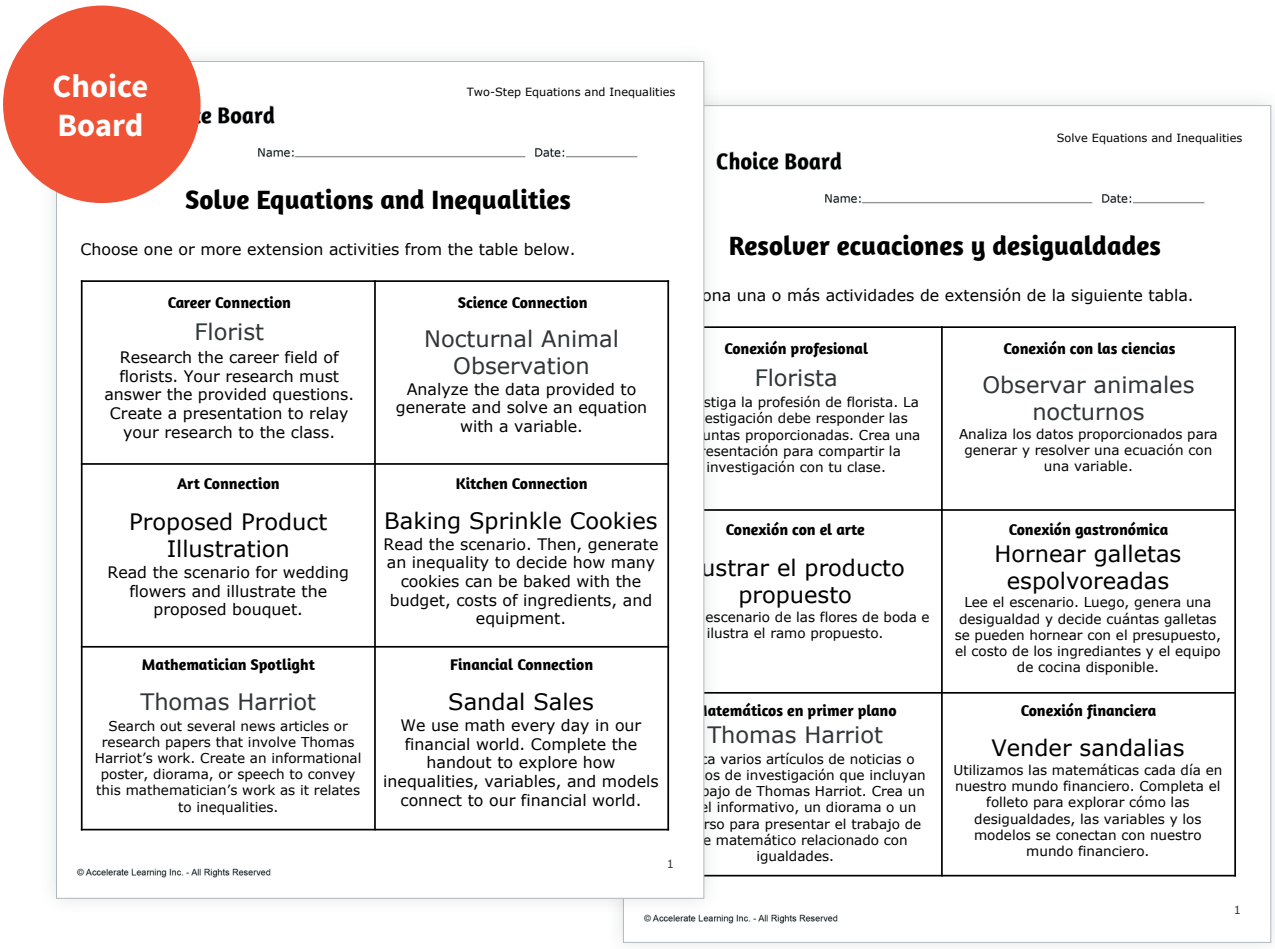
Students explore real-world connections and applications of math content through interactions with engaging activities.

Preparation

- Print a Choice Board and a set of Activity Handouts for each student.
- Print a Choice Board Self-Assessment for each student.
- Plan ahead for technology use. Research may be required for some activities on the Choice Board.

Procedure and Facilitation Points

1. Distribute a Choice Board to each student.
2. Allow students time to examine the Choice Board and select the activities they would like to explore.
3. Encourage students to attempt at least three activities.
4. Distribute the appropriate Activity Handouts according to students' choices.
5. Upon completion of each Choice Board activity, have students complete a Choice Board Self-Assessment to evaluate their own mathematical thinking and efforts on their project.



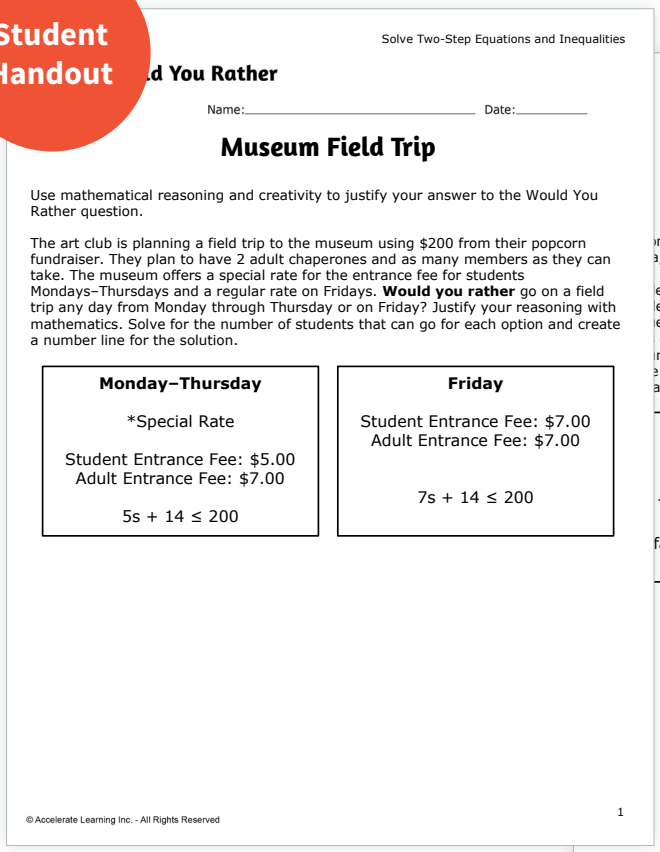
WOULD YOU RATHER - MUSEUM FIELD TRIP

Would You Rather is an enriching activity in which students use mathematical reasoning and creativity to justify their answers.

Procedure and Facilitation Points

1. Distribute a Student Handout to each student.
2. Encourage students to look back at the Student Journals from the Explore activities if they need to review the skills they have learned.
3. Invite students to share their answers and justification with partners.

Student Handout



Solve Two-Step Equations and Inequalities

d You Rather

Name:_____ Date:_____

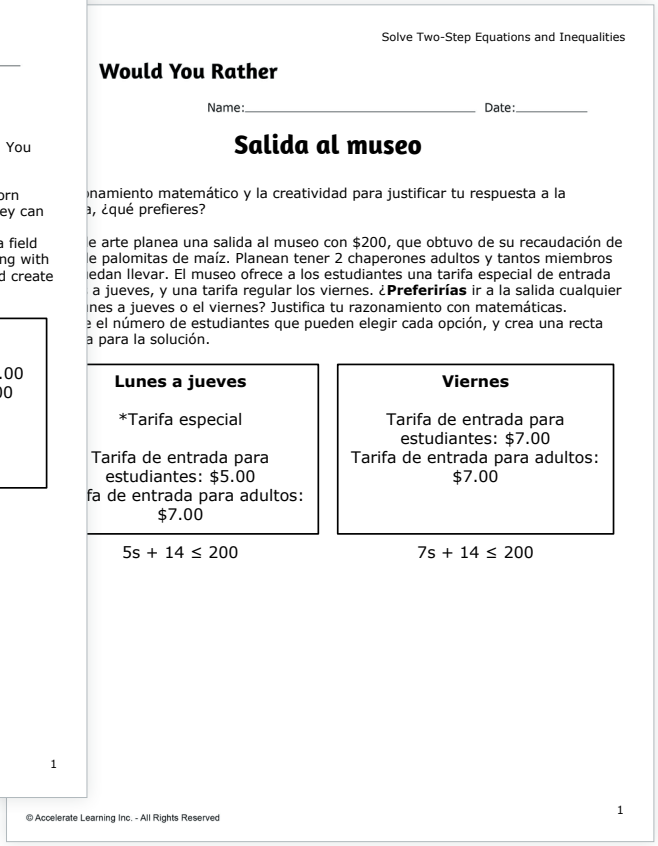
Museum Field Trip

Use mathematical reasoning and creativity to justify your answer to the Would You Rather question.

The art club is planning a field trip to the museum using $200 from their popcorn fundraiser. They plan to have 2 adult chaperones and as many members as they can take. The museum offers a special rate for the entrance fee for students Mondays–Thursdays and a regular rate on Fridays. **Would you rather** go on a field trip any day from Monday through Thursday or on Friday? Justify your reasoning with mathematics. Solve for the number of students that can go for each option and create a number line for the solution.

Monday–Thursday	Friday
*Special Rate Student Entrance Fee: $5.00 Adult Entrance Fee: $7.00 5s + 14 ≤ 200	Student Entrance Fee: $7.00 Adult Entrance Fee: $7.00 7s + 14 ≤ 200

1



Solve Two-Step Equations and Inequalities

Would You Rather

Name:_____ Date:_____

Salida al museo

namiento matemático y la creatividad para justificar tu respuesta a la
a, ¿qué prefieres?

e arte planea una salida al museo con $200, que obtuvo de su recaudación de
e palomitas de maíz. Planean tener 2 chaperones adultos y tantos miembros
edan llevar. El museo ofrece a los estudiantes una tarifa especial de entrada
a jueves, y una tarifa regular los viernes. ¿**Preferirías** ir a la salida cualquier
nes a jueves o el viernes? Justifica tu razonamiento con matemáticas.
el número de estudiantes que pueden elegir cada opción, y crea una recta
a para la solución.

Lunes a jueves	Viernes
*Tarifa especial Tarifa de entrada para estudiantes: $5.00 fa de entrada para adultos: $7.00 5s + 14 ≤ 200	Tarifa de entrada para estudiantes: $7.00 Tarifa de entrada para adultos: $7.00 7s + 14 ≤ 200

1

STEMscopes TEXAS MATH
POWERED BY ACCELERATE LEARNING

- 100% TEKS AND ELPS ALIGNED
- ALL STUDENT MATERIALS ARE AVAILABLE IN ENGLISH AND SPANISH
- ONE-STOP-SHOP FOR ALL TEACHER SUPPORT AND RESOURCES