

Title: Acceleration Lesson in Preparation for Introducing Literal Equations

A1.CED.A.4 Solve literal equations and formulas for a specified variable that highlights a quantity of interest.

Generate thinking, purpose, relevance, and curiosity and clearly articulate the goal and expectations (Pieces 1 and 2)

Today we are going to prepare for an upcoming lesson on literal equations. Sometimes, you will be given a formula or equation and will need to rearrange it to solve for a specific variable because the equation isn't written in a way that allows you to find the answer you need. For example, with the distance formula $D=rt$, sometimes you might need to find the RATE (r) and not necessarily the DISTANCE (d). That means we need to make an equation that says $r=(\text{something})$. We will have to rearrange it so it will tell us the value for r .

Before you can do this, you need to pull together three important skills:

1. If there are parentheses, we will need to remove those, so you will have to know how to use the distributive property if it's needed.
2. If by distributing we have created like terms, we need to know how to combine those.
3. In order to isolate that one variable, we will need to use inverse operations to keep things equal (remember--what we do to one side we do to the other, so it stays equal.)

Before I introduce literal equations to the class, I saw from our exit cards yesterday that you struggled with one or more of these skills. To get you ready for Monday, we are going to work today to equip you with the needed skills, so you will be ready to pull them together on Monday when the whole class learns about literal equations. After today's lesson, you will be able to:

- Distribute to remove parentheses
- Combine like terms
- Use inverse operations to keep equations equal (balanced)
- Be introduced to the concept of literal equations and vocabulary needed to understand and use them to solve problems

Chunk 1– Scaffold and practice essential prerequisite skills (Piece 3)

You have been assigned activities that will help you build the skills *you* specifically need to be able to attack literal equations on Monday. Today, during rotations, you will work through those, and then we'll come back together at the back table to see how you did, answer any questions and practice any more you might need to practice, and then we'll dip our toes into literal equations to get ready for Monday.

- What questions do you have before you begin?
- Where can you find help if needed?
- What is the expectation for you during this time?

The timer is set for 9:37. See you at the back table with your work, whiteboards, marker, and eraser when it goes off.

REMOTE MIGRATION IDEAS

Virtual

- [G.Meet/Zoom](#)
- [Jamboard](#)
- [G.Doc](#)

Unplugged

- Phone call ([G.Voice](#))
- Advance organizers on paper

Virtual

- Differentiated practice pushed out via [G.Classroom/](#) LMS/ textbook series platform/ instructional software

Unplugged

- Differentiated practice via math text on paper/ in consumable
- Annotated teacher-written model problems
- Phone call ([G.Voice](#))

Title: Acceleration Lesson in Preparation for Introducing Literal Equations, cont.

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<p>Conduct formative assessment frequently (<i>Piece 5</i>)</p>	<p>Back at the table: Ok. Let's discuss how it went. On your whiteboards, you will perform the following steps to show me how you've progressed in learning these important building blocks. Ready? (As a small group, work through problems similar to the work done in rotations. As needed, provide guided instruction--using questions, prompts, and cues--as they perform the skills outlined at the beginning of the lesson.)</p>
<p>Chunk 2-- Dig into the new concept, introduce new vocabulary, and review prior vocabulary (<i>Piece 4</i>)</p>	<p>Here is our vocabulary for this upcoming learning. Aside from literal, you've learned all of these before, Let's start by sorting them into known/unknown columns. (terms, like terms, combining like terms, formula, solve for, isolate, variable, literal, inverse operations, equality, order of operations, distributive property).</p> <p>You are first going to watch this video on your own device, using headphones. https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-old-school-equations/v/solving-for-a-variable</p> <p>It's only 1:23, but I'm going to give you 4:00. Why would I be giving you that extra time? (answers could include: pause during watching to give think time; rewatch it all or just a certain part; take notes; jot down questions; read the transcript to get another delivery of the same material)</p>
<p>Conduct formative assessment frequently (<i>Piece 5</i>)</p>	<p>Let's discuss:</p> <ol style="list-style-type: none"> 1. First--what viewing strategies did you use for yourself during that time? 2. Who could share one idea they heard or wrote down while viewing? We will add that to our anchor chart. <p>After watching the video, circle and draw arrows to resort your vocabulary words. Did you move any to the <i>known</i> group?</p> <p>Which words should we talk more about right now as you process and practice? (use this opportunity to focus explicitly on the words still needing mastery)</p>
<p>Conduct formative assessment frequently (<i>Piece 5</i>)</p>	<p>Exit interview:</p> <ol style="list-style-type: none"> 1. What three skills did we practice today? 2. What new concept are we going to study with the rest of the class on Monday? 3. What does that mean and when would we need to use it? <p>Exit card:</p> <ol style="list-style-type: none"> 1. Solve three literal equations for specified variable. 2. List of vocabulary words to be studied and your plan for doing so.

REMOTE MIGRATION IDEAS

<p>Virtual</p> <ul style="list-style-type: none"> • G.Meet/Zoom • Jamboard • Doc Cam 	<p>Unplugged</p> <ul style="list-style-type: none"> • Texted/Emailed work snapshot • Worksheet • G.offline sync
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<p>Virtual</p> <ul style="list-style-type: none"> • G.Meet/Zoom • Word Magnets • G.Slides/G.Docs 	<p>Unplugged</p> <ul style="list-style-type: none"> • Student creates cards on notebook paper/index cards and turns the list or picture in
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<p>Virtual</p> <p>Anchor charts:</p> <ul style="list-style-type: none"> • Jamboard • G.Slides/G.Docs 	<p>Unplugged</p> <ul style="list-style-type: none"> • Transcript of video annotating worked problems
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<p>Virtual</p> <ul style="list-style-type: none"> • G.Meet/Zoom • G.Form • G.Doc math notebook 	<p>Unplugged</p> <ul style="list-style-type: none"> • Math notebook • Phone call (G.Voice) • Parent interview/conference
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