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| **Essential Components of Each Lesson:** | **Linear Equations** |
| **SOL # and Letter:****The student will:**Remember the verbs! | 8.15 The student willa) solve multistep linear equations in one variable with the variable on one and two sides of the equation;b) solve two-step linear inequalities and graph the results on a number line; |
| **Resources used:** | * Interactive Achievement Pre-Assessment & Post-Assessment
* Tablet & Projector
* Khan Academy®
* YouTube® (Khan Videos)
* Hands-On Equations®
* Big Ideas Math 8 Text®
* Big Ideas Math 8 Record and Practice Journal®
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| **Lesson Progression:**Is there a warm up?What does the lesson looks like? Is it differentiated? If so, how?Specific examples of effective instructional strategies. | **Day 1**Pre-Assessment – SOL 8.15 Quiz (Interactive Achievement)**Day 2**Students are introduced to linear equations as a group using the tablet and projector on the white board. *Math Rap Dougie: Teach Me How to Solve It*<https://www.youtube.com/watch?v=oIxxqztQz3Y> Notes are saved on OneNote for absent students.\*\*Students that demonstrate an understanding of the earlier steps progress to more advances levels.\*\*Lessons progress through the follow subtopics in a teach/practice format:**One-Step Equations**Examples Requiring Multiplication$\frac{x}{2}$ = 8 $\frac{x}{9}=27$ $\frac{x}{3}=9$ $\frac{2}{10}x=200$ $\frac{2}{9}x=81$ $\frac{5}{50}x=150$ Student Practice – In ClassHomework – One-Step Equation Requiring Multiplication**Day 3****One-Step Equations**Examples Requiring Division$7x=49$ $5x=85$ $20x=160$ $18x=36$ $6x=18$ $4x=48$Student Practice – In Class (Multiplication & Division)Homework – One-Step Equations Requiring Multiplication or Division**Day 4****Two-Step Equations**Introduce - **OOOs** – Opposite Order of Operations – Do the Order of Operations in reverse order.Review – **G.E.M.S.**G – Grouping SymbolsE – ExponentsM - Multiply & Divide in one step from Left to Right.S – Subtract & Add in one step from Left to Right.Remember - “When girls see pretty **GEMS** they will say lots of, ’**OOOs**.’”Examples$2+3x=17$ $4x+3=11$ $\frac{x}{-4}-3=1$ $-3x-4=8$$x-10=39$ Student Practice – Two-Step Equations (In Class)Homework – Two-Step Equations**Day 5**Groups based on level of understanding.**GREEN** - Group one has a clear understanding of the concept.**YELLOW** - Group two is pretty sure but would like to review.**RED** – Group three is lost and needs remediation.**RED** – Works with the teacher reviewing the content. A smaller group allows for more individualized attention, and the teacher has the opportunity to see exactly where the student is struggling. Hands-On Equations® Student Kits are used to provide a visual of the concepts being taught.**YELLOW** – Works on Khan Academy® on assigned skills: *One-Step Equation Intuition*, *One-Step Equations*, and *One-Step Equations with Multiplication*.**GREEN** – Works in pairs or individually to complete *One-Step Equation Maze A* and *One-Step Equation Maze B*.**Day 6****Variable on Both Sides of the Equal Sign**Examples$3.8x-13=1.4x+5$ $3x+8=7x+11$ Helpful Video:<https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-solving-equations/cc-8th-linear-equations/v/multi-step-equations-1> Student Practice – Variable on Both Sides of the Equal Sign (In Class)Homework – Mixed Review of All the Skills **Day 7****Distributing**Examples$4\left(x+3\right)=24$ $1.5\left(x+3.2\right)=6.9$ $8\left(x+2\right)=40$  $-5\left(x+11\right)=-60$ Helpful Video:<https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-solving-equations/cc-8th-equations-distribution/v/equation-special-cases> Student Practice – Distributing (In Class)Homework – Mixed Review of All the Skills  |
| **Teacher Assessments /Checking for Understanding:**How will you know what students came away knowing? | Daily homework checks for accuracy.Post-Assessment – SOL 8.15 Quiz (Interactive Achievement) |