

Unit 1 - Equations and Inequalities

Overview

This short unit focuses on prior mathematical knowledge of solving multi-step equations and inequalities. Students are expected to apply their algebraic knowledge and understanding through the application to real-world problems.

21st Century Capacities: Analyzing, Collective Intelligence

Stage 1 - Desired Results

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| <p>ESTABLISHED GOALS/ STANDARDS</p> <p>MP 1 Make sense of problems and persevere in solving them MP2 Reason quantitatively</p> <p>A.CED.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</p> <p>A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm’s law $V = IR$ to highlight resistance R.</p> | <p>Transfer:</p> <p><i>Students will be able to independently use their learning in new situations to...</i></p> <ol style="list-style-type: none"> 1. Manipulate equations/expressions to create order and establish relationships 2. Draw conclusions about graphs, shapes, equations, or objects (Analyzing) 3. Work respectfully and responsibly with others, exchanging and evaluating ideas to achieve a common objective (Collective Intelligence) | | |
| | <p>Meaning:</p> | | |
| | <table border="1" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Mathematicians identify relevant tools, strategies, relationships, and/or information in order to draw conclusions. 2. Mathematicians understand that placing a problem in a category gives one a familiar approach to solving it. 3. Mathematicians can describe patterns, relations, and/or functions to access strategies to solve problems. </td> <td style="width: 50%; vertical-align: top;"> <p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. How do I decide if my answer makes sense, and if not, what do I do? B. What do I need to support my answer? </td> </tr> </table> | <p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Mathematicians identify relevant tools, strategies, relationships, and/or information in order to draw conclusions. 2. Mathematicians understand that placing a problem in a category gives one a familiar approach to solving it. 3. Mathematicians can describe patterns, relations, and/or functions to access strategies to solve problems. | <p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. How do I decide if my answer makes sense, and if not, what do I do? B. What do I need to support my answer? |
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Algebra II Level 2 Curriculum

| Acquisition: | |
|--|---|
| <i>Students will know...</i> | <i>Students will be skilled at...</i> |
| <ol style="list-style-type: none">1. Equations have one, none or an infinite number of solutions2. Vocabulary: real, rational, irrational, integer, whole, natural, constant, variable, | <ol style="list-style-type: none">1. Solving single variable equations and inequalities strategically using algebraic structure2. Solving literal equations (rearrange formulas)3. Graphing solutions on a number line4. Using interval notation5. Creating and using linear equations or inequalities in one variable to solve problems in a variety of contexts |