

**UNIT OF STUDY  
#2**

<p><b>Title:</b> solve compound inequalities <b>Subject/Course:</b> 10<sup>th</sup> Res. Math      <b>Length:</b> 2 weeks</p> <p><b>Topic:</b> solve and graph solution sets to conjunctions and disjunctions      <b>Grade:</b> 10th</p> <p><b>Designer:</b> K. Henderson</p>	
<b>UNIT GOALS AND EXPECTATIONS</b>	
<p><b>IMPORTANT CONCEPTS/UNDERSTANDINGS:</b></p> <ul style="list-style-type: none"> <li>• combine like terms</li> <li>• inverse operations</li> <li>• use of the distributive property</li> <li>• how to determine the least common multiple</li> <li>• inequality symbols</li> <li>• graphing on a number line</li> <li>• order of operations</li> <li>• absolute value</li> <li>• differentiate between a conjunction and a disjunction</li> </ul>	<p><b>ESSENTIAL QUESTIONS:</b></p> <ul style="list-style-type: none"> <li>• What is a linear inequality?</li> <li>• What is the symbol for greater than, less than, greater than or equal to, less than or equal to, not equal to?</li> <li>• How do you graph inequalities on a number line?</li> <li>• How do you test if your answer is correct?</li> <li>• How to use solutions to an equation to solve a related inequality</li> <li>• What is a conjunction(<b>and</b>) or disjunction(<b>or</b>) in math?</li> <li>• How do you write and graph a conjunction or disjunction?</li> </ul>
<p><b>STUDENT LEARNING EXPECTATIONS:</b></p> <p>*SEI.2.AI.1 - Solve multi-step equations and inequalities with rational <i>coefficients</i></p> <ul style="list-style-type: none"> <li>• numerically (from a table or guess and check)</li> <li>• algebraically (including the use of manipulatives)</li> <li>• graphically</li> <li>• technologically</li> </ul> <p>*SEI.2.AI.4 - Solve and graph simple <i>absolute value equations</i> and <i>inequalities</i> (Ex. <math> x  = 5</math>, <math> x  \leq 5</math>, <math> x  &gt; 5</math>)</p>	<p><math> x  = 5</math>. Interpret this in words as “What number or numbers is a distance of 5 units from 0?”</p> <p>Then in <math> x  = -5</math> the question becomes “What number or numbers is a distance of -5 units from 0?” and the answer is there are no numbers that fit this description since all distances are positive.</p> <p>Do you solve <math> x - 2  = 3</math>. If so the question becomes “The distance that a number is from 2 is 3”. “What is the number or numbers?”</p>
<p><b>SPECIFIC DECLARATIVE KNOWLEDGE – What I know</b></p> <p>Vocabulary words – inequality, inverse, inequality symbols, no solution, absolute value, compound</p>	<p><b>SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do</b></p> <ul style="list-style-type: none"> <li>• solve one step and multi step linear inequalities using inverse operation</li> </ul>

inequality, conjunction, disjunction, intersection, empty set, solution set, isolate, union	(add, subtract, multiply and divide) <ul style="list-style-type: none"> <li>graph answers on a number line or number lines to find correct answer</li> <li>check to see if correct side of number line is shaded.</li> <li>switch symbol when multiply or divide both sides by a negative number.</li> </ul>
<b>UNIT ASSESSMENTS</b> (Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)	
open response question <ul style="list-style-type: none"> <li>requiring the student to use compound inequality (application)</li> </ul>	
<b>Traditional Assessments:</b> independent practice worksheets Test warm-up quizzes or homework quizzes	<b>Other Evidence of Learning:</b> notes guided practice observation marker board review

ACTIVITIES AND LEARNING EXPERIENCES	Resources
1. 4 step vocabulary to introduce key words from the unit.  2. Lesson 5.5 solve conjunction inequalities and graph on a number line * play the between game * use inverse operation "do the opposite" *review inequality symbols and how to "read" them in a math problem *demonstrate when to use an open or closed circle when graphing *discuss how to test if you have shaded the correct area on a number line (If answer is yes draw a line over it) [This is what you do when you use the solutions to an equation to solve a related inequality] *review that conjunction is what the number lines have in common when compared. (statements joined by the word "and")  3. Lesson 5.6 – solve disjunction inequalities and graph on a number line *disjunction consists of two statement joined by the word "or", and is true when either or both statements are true. *solution to the number line can go both directions  4. marker board review – group review	4 step worksheet  Algebra's Cool DVD program Unit B  Algebra/s Cool DVD program Unit B  marker board & eraser

<b>Career Connections</b>	
art dealer, television advertiser, wildlife officer	