

# UNIT OF STUDY

## #5

<b>Title:</b> solve linear equations and inequalities of two variables <b>Subject/Course:</b> 10 <sup>th</sup> Res. Math <b>Length:</b> 2 weeks <b>Topic:</b> define linear equations of two variable <b>Grade:</b> 10th <b>Designer:</b> K. Henderson <b>graphing linear equation of two variables</b>	
<b>UNIT GOALS AND EXPECTATIONS</b>	
<b>IMPORTANT CONCEPTS/UNDERSTANDINGS:</b> <ul style="list-style-type: none"> <li>ordered pair</li> <li>graphing order pairs, vertical line, horizontal line</li> <li>find solution to an equation when one variable is given and graph</li> <li>find 3 solutions to an equation and graph</li> <li>graph an equation using a table, intercept method, or slope intercept method</li> </ul>	<b>ESSENTIAL QUESTIONS:</b> <ul style="list-style-type: none"> <li>What is an ordered pair?</li> <li>How do you graph an ordered pair?</li> <li>How do you know when to graph a vertical or horizontal line?</li> <li>How do you graph a line using a table, intercept method and the slope intercept method?</li> <li>What is the intercept method (zeros)?</li> <li>What is the slope intercept method (<math>y=mx+b</math>)?</li> <li>what is slope?</li> <li>what is the x intercept and the y intercept?</li> <li><b>How do you find the point where a line crosses the x-axis? y-axis?</b></li> </ul> <p><b>You have some really good questions here.</b></p>
<b>STUDENT LEARNING EXPECTATIONS:</b>  DIP.5.AI.1 - Construct and use <i>scatter plots</i> and <i>line of best fit</i> to make <i>inferences</i> in real life situations  LF.3.AI.5 - Interpret the rate of change/ <i>slope</i> and intercepts within the context of everyday life (Ex. telephone charges based on base rate ( <i>y-intercept</i> ) plus rate per minute (slope))  <p><b>A good activity here is to have them estimate the slope and y-intercept of the line of best fit from a given scatter plot. A clear ruler works great because they can see through it and judge where the different points are.</b></p>	LF.3.AI.6 - Calculate the slope given <ul style="list-style-type: none"> <li>two points</li> <li>the graph of a line</li> <li>the equation of a line</li> </ul> LF.3.AI.8 - *Write an equation in <i>slope-intercept</i> , <i>point-slope</i> , and <i>standard</i> forms given <ul style="list-style-type: none"> <li>two points</li> <li>a point and y-intercept</li> <li><i>x-intercept</i> and y-intercept</li> <li>a point and slope</li> <li>a table of data</li> <li>the graph of a line</li> </ul>
<b>SPECIFIC DECLARATIVE KNOWLEDGE – What I know</b>	<b>SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do</b>

Vocabulary words – ordered pair, coordinate, linear equation, solution, Cartesian coordinate system, x axis, y axis, origin, coordinate plane, quadrant, x coordinate, y coordinate, constant, x intercept, y intercept, slope.	<ul style="list-style-type: none"> <li>• identify ordered pairs and graph them correctly</li> <li>• find the solution to an equation when a value is given to a variable</li> <li>• graph equation using a data table</li> <li>• graph an equation using the intercept method</li> <li>• graph an equation using the slope intercept method</li> <li>•</li> </ul>
<b>UNIT ASSESSMENTS</b> <b>(Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)</b>	
open response question <ul style="list-style-type: none"> <li>• requiring the student to graph linear equations with two variables (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 7.1 define linear equations of two variable and their solutions *find solutions to linear equations of two variables and write them as ordered pairs. *graph points *graph horizontal and vertical lines from equations  3. Lesson 7.2 graphing linear equations of two variables * graph linear equations from a data table, intercept method, and slope intercept method  4. marker board review – group review	4 step worksheet  Algebra's Cool DVD program Unit C  Algebra's Cool DVD program Unit C  marker board & eraser
<b>Career Connections</b>	

landscaping, fundraiser, movie theater owner