

Mathematics
Algebra 1: CP
Unit 4: Graphing Linear Equations and Functions

Essential Understandings	<ul style="list-style-type: none"> ▪ Graphing linear equations and functions is a major skill necessary for Algebra I.
Essential Questions	<ul style="list-style-type: none"> ▪ How do you plot points on a coordinate plane? ▪ How do you graph points using a table? ▪ What are intercepts of lines and how do you use them? ▪ What is slope? ▪ How do you graph using the slope-intercept form of an equation? ▪ What are functions?
Essential Knowledge	<ul style="list-style-type: none"> ▪ The coordinate plane is made up of four quadrants. ▪ Intercepts of lines are where they cross each axis. ▪ Slope is rise divided by run. ▪ Slope-intercept form of an equation is $y=mx + b$. ▪ Functions are relations where each input gives exactly one output.
Vocabulary	<ul style="list-style-type: none"> ▪ <u>Terms:</u> <ul style="list-style-type: none"> ○ ordered pairs, linear equations, slope, x-intercept, y-intercept, slope intercept form, coordinate plane
Essential Skills	<ul style="list-style-type: none"> ▪ Plot points in a coordinate plane. ▪ Graph points using a table. ▪ Find the intercepts of a line. ▪ Find slope of a line. ▪ Graph equations using the slope-intercept form. ▪ Identify whether relationships are functions or not.

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Related Maine Learning Results	<p><u>Mathematics</u> D. Algebra Equations and Inequalities D2.Students solve families of equations and inequalities.</p> <ol style="list-style-type: none"> a. Solve systems of linear equations and inequalities in two unknowns and interpret their graphs. b. Solve quadratic equations graphically, by factoring in cases where factoring is efficient, and by applying the quadratic formula. c. Solve simple rational equations. d. Solve absolute value equations and inequalities and interpret the results. e. Apply the understanding that the solution(s) to equations of the form $f(x) = g(x)$ are x-value(s) of the point(s) of intersection of the graphs of $f(x)$ and $g(x)$ and common outputs in table of values. f. Explain why the coordinates of the point of intersection of the lines represented by a system of equations is its solution and apply this understanding to solving problems. <p>D3.Students understand and apply ideas of logarithms.</p> <ol style="list-style-type: none"> a. Use and interpret logarithmic scales. b. Solve equations in the form of $x + b^y$ using the equivalent form $y = \log_b x$.
Sample Lessons And Activities	<ul style="list-style-type: none"> ▪ Students will orally respond to questions. ▪ Students will utilize worksheets and in their notes to demonstrate individual understanding of the concepts.
Sample Classroom Assessment Methods	<ul style="list-style-type: none"> ▪ Evaluate homework ▪ Quizzes ▪ Chapter test
Sample Resources	<ul style="list-style-type: none"> ▪ <u>Publications:</u> <ul style="list-style-type: none"> ○ <u>Algebra 1</u> - McDougall Littell