

Algebra I Honors

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"> ▪ What are functions? ▪ How do you plot points on a coordinate plane? ▪ What is slope? ▪ What are intercepts of a linear function? ▪ How do you graph using a table? ▪ How do you graph using intercepts? ▪ How do you graph using the slope-intercept form of an equation? ▪ What are discrete and continuous functions? ▪ What are direct variation equations and their constant of variation? ▪ What are families of functions? ▪ What are parent linear functions?
Essential Knowledge	<ul style="list-style-type: none"> ▪ Functions are relations where each input gives exactly one output. ▪ Coordinate plane is made of up four quadrants. ▪ Intercepts of lines are where they cross each axis. ▪ Slope is rise divided run given a graph. ▪ Slope is change in y over change in x, given 2 points. ▪ Slope-intercept form of an equation is $y=mx+b$.
Vocabulary	<ul style="list-style-type: none"> ▪ <u>Terms</u>: Functions, function form, vertical line test, ordered pairs, linear equations, slope, rise, run, change in y, change in x, x-intercept, y-intercept, slope- intercept form, coordinate plane, discrete and continuous functions, direct variation equations, constant of variation, family of functions, parent linear function.
Essential Skills	<ul style="list-style-type: none"> ▪ Identify whether relationships are functions or not. ▪ Plot points in a coordinate plane. ▪ Graph functions using a table. ▪ Find the intercepts of a line. ▪ Find slope of a line. ▪ Graph equations using x-intercept and y-intercepts. ▪ Graph equations using the slope-intercept form. ▪ Solve and graph linear functions using technology.
Related Maine Learning Results	D. Functions and Relations 4ac
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"> ▪ Quizzes, take-home worksheets, and tests.
Sample Resources	<ul style="list-style-type: none"> ▪ <u>Publications</u>: Algebra 1 Textbook (Larson) ▪ <u>Other</u>: Graphing calculators.
Technology Link	<ul style="list-style-type: none"> ▪ http://www.brunswick.k12.me.us/curriculum