

Standards Chart: Think FUNCTIONally

Grades 6–8

Common Core State Standards for Mathematical Content Functions	1. Representing Functions	2. Using Functions to Model Relationships Between Quantities
Grade 8: 8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	X	
Grade 8: 8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	X	
Grade 8: 8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear.		X
Grade 8: 8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.		X
Common Core State Standards for Mathematical Practice		
MP1. Make sense of problems and persevere in solving them.	X	X
MP2. Reason abstractly and quantitatively.	X	X
MP4. Model with mathematics.	X	X
MP5. Use appropriate tools strategically.	X	
MP6. Attend to precision.	X	X

(continued)

National Council of Teachers of Mathematics (NCTM) Standards	1. Representing Functions	2. Using Functions to Model Relationships Between Quantities
<p>Grades 6–8: Understand patterns, relations, and functions</p> <ul style="list-style-type: none"> • represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic rules; • relate and compare different forms of representation for a relationship; • identify functions as linear or nonlinear and contrast their properties from tables, graphs, or equations. 	X	X
<p>Grades 6–8: Represent and analyze mathematical situations and structures using algebraic symbols</p> <ul style="list-style-type: none"> • develop an initial conceptual understanding of different uses of variables; • explore relationships between symbolic expressions and graphs of lines, paying particular attention to the meaning of intercept and slope; • use symbolic algebra to represent situations and to solve problems, especially those that involve linear relationships; • recognize and generate equivalent forms for simple algebraic expressions and solve linear equations. 	X	X
<p>Grades 6–8: Use mathematical models to represent and understand quantitative relationships</p> <ul style="list-style-type: none"> • model and solve contextualized problems using various representations, such as graphs, tables, and equations. 	X	X
<p>Grades 6–8: Analyze change in various contexts</p> <ul style="list-style-type: none"> • use graphs to analyze the nature of changes in quantities in linear relationships. 	X	X