Expectations	Indicators	Essential Questions	Enduring Understandings
1.1 The student will model, analyze and apply linear functions.	1.1.B.1 solve real-world problems using linear equations and linear inequalities.	Why are equations useful?	Linear equations are used to solve real-world problems.
1.5 The student will analyze functional relationships using the language of mathematics.	1.5.B.1 describe functions using domain and range, independent and dependent variables, increasing, decreasing, constant, minimum, and maximum.	How are functions useful?	Functions and their representations are used to model and analyze real-world relationships.
	1.5.B.2 determine whether a relation that is expressed numerically or graphically is a function.		
	1.5.B.3 represent functions numerically, algebraically, and graphically.		

Expectation

1.1 The student will model, analyze and apply linear functions.

Indicators

1.1.B.1 solve real-world problems using linear equations and inequalities.

1.1.B.3 analyze patterns of change in data to determine if a linear relationship appropriately models the data.

1.1.B.4 interpret the slope and *y*-intercept of a linear equation in the context of a real-world problem.

1.1.B.5 represent the equation of a line in slope-intercept form.

1.1.B.6 determine a linear trend line to a scatter plot of data.

1.1.B.7 apply linear functions to model data with a regression equation and make predictions using the function.

1.1.B.8 interpret and solve problems involving piecewise functions.

1.1.B.9 determine the rate of change (slope) of a linear function represented numerically, algebraically, and graphically.

Essential Questions

Why are linear functions useful?

What makes a relationship linear?

Enduring Understandings

Linear functions represent situations involving a constant rate of change.

The characteristics of linear functions and their representations are useful in solving real-world problems.

Expectation

1.2 The student will model, analyze, and apply systems of linear equations and inequalities in two variables.

Indicators

1.2.B.1 model a real-world problem using a system of equations.

1.2.B.2 solve a system of equations numerically, algebraically, graphically, and using matrices.

1.2.B.3 perform operations on matrices.

1.2.B.4 represent a system of inequalities numerically, algebraically and graphically.

1.2.B.5 solve a system of linear inequalities graphically.

Essential Questions

How are systems of linear equations and inequalities useful?

What methods can be used to solve systems of linear equations and inequalities?

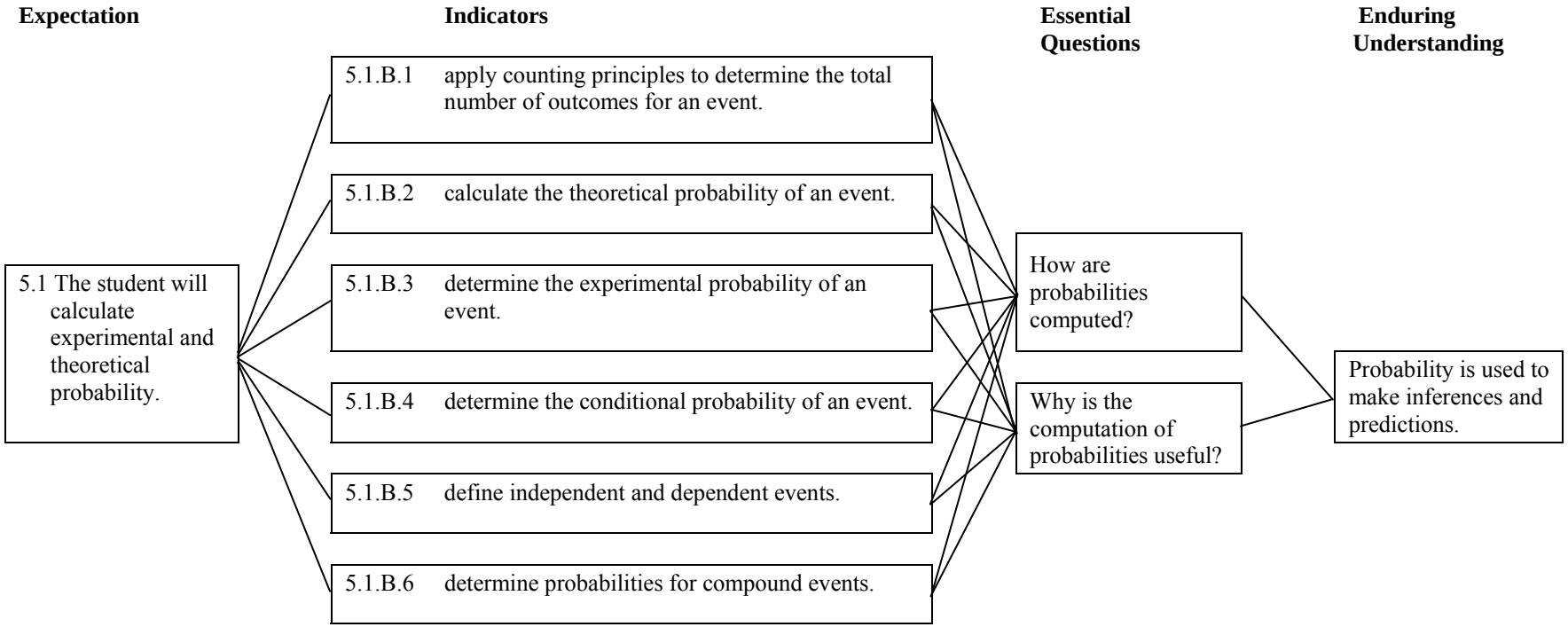
Enduring Understanding

Systems of linear equations and/or inequalities are used to model and solve real-world problems involving 2 variables.

Expectation	Indicators	Essential Question	Enduring Understanding
1.3 The student will model, analyze and apply quadratic functions.	1.3.B.1 represent quadratic functions numerically, algebraically, and graphically and identify their properties. 1.3.B.2 analyze patterns of change in data to determine if a quadratic relationship appropriately models the data. 1.3.B.3 represent translations and dilations of quadratic functions numerically, algebraically, and graphically. 1.3.B.4 model data using quadratic functions. 1.3.B.5 simplify radical expressions. 1.3.B.6 solve quadratic equations by inverse operations, factoring, completing the square, and the quadratic formula. 1.3.B.7 apply quadratic functions to real-world problems. 1.3.B.9 recognize the square root function as the inverse of the quadratic function.	How do quadratic functions model real-world problems and their solutions?	The characteristics of quadratic functions and their representations are useful in solving real-world problems.

Expectations	Indicators	Essential Questions	Enduring Understanding
1.4 The student will model, analyze and apply exponential functions.	1.4.B.1 represent exponential functions numerically, algebraically, and graphically.	How do exponential functions model real-world problems and their solutions?	The characteristics of exponential functions and their representations are useful in solving real-world problems.
	1.4.B.2 identify properties of exponential functions.		
	1.4.B.3 represent translations of exponential functions numerically, algebraically, and graphically.		
	1.4.B.4 apply exponential functions to real-world problems.		
	1.4.B.5 analyze patterns of change in data to determine if an exponential relationship appropriately models the data.		
	1.4.B.6 model data using exponential functions.		
	1.4.B.7 solve exponential equations algebraically and graphically.		
	1.4.B.8 recognize the logarithmic function as the inverse of the exponential function.	How are expressions involving exponents and logarithms related?	

Expectations	Indicators	Essential Question	Enduring Understanding
1.1 The student will model, analyze, and apply linear functions.	1.1.B.2 apply direct variation to solve real-world problems.	How do variation functions model real-world problems and their solutions?	The characteristics of variation functions and their representations are useful in solving real-world problems.
1.3 The student will model, analyze, and apply quadratic functions.	1.3.B.8 apply inverse variation to solve real-world problems.		


Expectation
Indicators
Essential Questions
Enduring Understanding
5.1 The student will calculate experimental and theoretical probability.
5.1.B.1 apply counting principles to determine the total number of outcomes for an event.
5.1.B.2 calculate the theoretical probability of an event.
5.1.B.3 determine the experimental probability of an event.
5.1.B.4 determine the conditional probability of an event.
5.1.B.5 define independent and dependent events.
5.1.B.6 determine probabilities for compound events.
How are probabilities computed?
Why is the computation of probabilities useful?
Probability is used to make inferences and predictions.