

Algebra II Scope and Sequence Aligned to SATEC Resources—DRAFT (4/06)

Foundations for Functions (4 weeks)

The foundations for functions unit will build the concept of functions taught in Algebra I and will focus on addressing the foundation concepts such as parameter changes, domain and range, interdependence of variables and connections among multiple representations. These concepts will be revisited in the study of the unit dedicated to each of the functions studied in Algebra II.

Objective	TEKS (not necessarily in order)	TEKS Clarification	TAKS Objectives	SATEC Lesson / Resources ¹	SATEC Correlated Assessments	Resources / Text
For a given application, identify the mathematical domain and range and the domain and range for the situation.	2A.1A TEKS connections: 2A.6A, 2A.9C, 2A.10A, 2A.10C, 2A.11B, 2A.11C	For a given application, determine the independent and dependent variables and analyze the possible domain and range values appropriate for the given situation. Use a data collection activity to introduce each function from the Algebra II TEKS in the context of real life situations. Activities will be used again to launch into an in-depth study of each function. After collecting data, make a scatterplot, interpret the graph, and fit a curve to the graphed data.	Objectives 1, 2, 3, 5	2B \cap ~ 2B Weight of Money (Linear Functions) Winning 3 Pointer (Quadratic Functions) Impact (Square Root Functions) In Perspective (Rational Functions) Attack of the Buzz Bugs (Exponential Functions) What's Shakin' (Logarithmic Functions)	2B \cap ~ 2B: Reflect and Apply Weight of Money: Reflect and Apply Winning 3 Pointer: Reflect and Apply Attack of the Buzz Bugs: Reflect and Apply	Parameter Changes Resources
Collect and organize data, make scatterplots, fit the curve to a function, interpret the results, and model, predict, and make decisions.	2A.1B TEKS connections: 2A.8A, 2A.9E, 2A.10F, 2A.11F	Make a connection between $y =$ and $f(x) =$ function. After collecting data, make a scatterplot, interpret the graph, and fit a curve to the graphed data.		Weight of Money (Linear Functions) Winning 3 Pointer (Quadratic Functions) Impact (Square Root Functions) In Perspective (Rational	Weight of Money: Reflect and Apply Winning 3 Pointer: Reflect and Apply Attack of the Buzz Bugs: Reflect and Apply	Parameter Changes Resources

¹ The SATEC Resources and Coordinated Assessments are available on the Mathematics TEKS Toolkit at www.mathtekstoolkit.org/instruction/scope/alg2scope/satec.php.

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		<p>Make a connection between $y =$ and $f(x) =$ notation.</p> <p>Collect data, make scatterplots, interpret graph.</p> <p>Define dependent and independent variables.</p>		<p>Fuctions)</p> <p>Attack of the Buzz Bugs (Exponential Functions)</p> <p>What’s Shakin’ (Logarithmic Functions)</p>		
Recognize that functions can be denoted in many forms: $y =$, $d =$, $y =$ and $f(x) =$ and determine which form is the most appropriate for a given situation.	(Moved to Alg1)	<p>Emphasize similar characteristics of functions.</p> <p>Determine domain and range.</p> <p>Graph all 6 parent functions included in the Algebra II TEKS and identify them, connecting the equation with the geometric model.</p>				Parameter Changes Resources
Identify and sketch graphs of all six parent functions used in Algebra II.	2A.4A TEKS connections: 2A.6B, 2A.7A, 2A.10A	<p>Use technology such as graphing calculators and/or computers to link multiple representations.</p> <p>Differentiate between relations and functions.</p> <p>Transform a function numerically and graphically and make generalizations.</p> <p>Emphasize similar characteristics of functions.</p>		<p>Weight of Money (Linear Functions)</p> <p>Winning 3 Pointer (Quadratic Functions)</p> <p>Impact (Square Root Functions)</p> <p>In Perspective (Rational Fuctions)</p> <p>Attack of the Buzz Bugs (Exponential Functions)</p> <p>What’s Shakin’ (Logarithmic Functions)</p>	<p>Weight of Money: Reflect and Apply</p> <p>Winning 3 Pointer: Reflect and Apply</p> <p>Attack of the Buzz Bugs: Reflect and Apply</p>	Parameter Changes Resources
Extend parent functions with parameters and describe parameter changes of graphs of parent functions.	2A.4B TEKS connections: 2A.9A, 2A.11B			Parameter Changes Resources	See Parameter Changes Resources	Algebra II TEKS TEAMS 1.1
Recognize a situation that can be modeled by a function and relate various	TEKS connections: 2A.6B, 2A.7B,			<p>Weight of Money (Linear Functions)</p> <p>Winning 3 Pointer</p>	<p>Weight of Money: Reflect and Apply</p> <p>Winning 3 Pointer:</p>	Parameter Changes Resources

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representations of functions.	2A.9B, 2A.10B, 2A.11F			(Quadratic Functions) Impact (Square Root Functions) In Perspective (Rational Functions) Attack of the Buzz Bugs (Exponential Functions) What's Shakin' (Logarithmic Functions)	Reflect and Apply Attack of the Buzz Bugs: Reflect and Apply	
Perceive connections between algebra and geometry and use tools of one to solve problems of the other.	BU A5			2B \cap ~ 2B	2B \cap ~ 2B	
Use math processes throughout, including problem solving, computation, communication, connections, reasoning, multiple representations, modeling, and justification.	BU A6			2B \cap ~ 2B Weight of Money (Linear Functions) Winning 3 Pointer (Quadratic Functions) Impact (Square Root Functions) In Perspective (Rational Functions) Attack of the Buzz Bugs (Exponential Functions) What's Shakin' (Logarithmic Functions)	2B \cap ~ 2B Weight of Money: Reflect and Apply Winning 3 Pointer: Reflect and Apply Attack of the Buzz Bugs: Reflect and Apply	Parameter Changes Resources