

ABSS Math Unit Planning Template

Introduction:

Grade/Course: 9_12 Adv Functions and Modeling		Suggested Unit Pacing (# of days): 7	
Unit Number and Title: Unit 6 - Graphs of Trigonometric Functions		Mathematical Practices	
		P1	Make sense of problems and persevere in solving them.
Conceptual Overview This unit graphs trigonometric functions using radian measure and instructs the student on the uses of amplitude, period, phase shift, and vertical shift.		P2	Reason abstractly and quantitatively.
		P3	Construct viable arguments and critique the reasoning of others.
		P4	Model with mathematics.
		P5	Use appropriate tools strategically.
		P6	Attend to precision.
		P7	Look for and make use of structure.
		P8	Look for and express regularity in repeated reasoning.
		Essential Understandings	
CCSS	Trigonometric Functions	<u>CCSS.9 12.MA.F.TF.CL2</u>	Model periodic phenomena with trigonometric functions
CCSS	Trigonometric Functions	<u>CCSS.9 12.MA.F.TF.5</u>	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★
CCSS	Trigonometric Functions	<u>CCSS.9 12.MA.F.TF.6</u>	(+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
SCS	The learner will use functions to solve problems.	<u>SCS.9 12.MA.2.04</u>	Use trigonometric (sine, cosine) functions to model and solve problems; justify results.
SCS	The learner will use functions to solve problems.	<u>SCS.9 12.MA.2.04.a</u>	Solve using tables, graphs, and algebraic properties.
SCS	The learner will use functions to solve problems.	<u>SCS.9 12.MA.2.04.b</u>	Create and identify transformations with respect to period, amplitude, and vertical and horizontal shifts.
Learning Targets		<ul style="list-style-type: none"> ● Change from radian measure to degree measure and vice versa ● Use and draw graphs of trigonometric functions (including their inverses) ● Find amplitude, period, phase shift, and vertical shift for trigonometric functions. ● Write trigonometric equations to model a given situation 	
Essential Terminology		<ul style="list-style-type: none"> ● radian ● central angle ● circular arc ● sector of a circle ● period ● periodic ● amplitude ● frequency ● phase shift 	

	<ul style="list-style-type: none"> • midline • vertical shift • Principal Value 			
Literacy Integration	Literacy Standards	Level	Standard	Standard Name
	Literature Connections			
Technology Integration	Technology Standards	Level	Standard	Standard Name
	Websites			
Assessment	Formative			
	Performance Tasks			
	Summative			
Resources				
Learning Plan	Instructional Sequence	<ul style="list-style-type: none"> • Angles and Radian Measure (6-1) • Graphs of Sine and Cosine Functions (6-3), Amplitude and Period of Sine and Cosine Functions (6-4) • Translations of Sine and Cosine Functions (6-5) • Modeling Real-World Data with Sine Functions (6-6) • Graphing Other Trigonometric Functions (Tangent Only) (6-7) • Review • Assessment 		
Differentiation	Remediation			
	Enrichment			