

ABSS Math Unit Planning Template

Introduction:

Grade/Course: 9_12 Discrete Mathematics		Suggested Unit Pacing (# of days): 7 days	
Unit Number and Title: Unit 1 - Sequences and Series		Mathematical Practices	
		P1	Make sense of problems and persevere in solving them.
		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.
Conceptual Overview			
Essential Understandings			
SCS	The learner will describe and use recursively-defined relationships to solve problems.	<u>SCS.9_12.MA.3.01</u>	Use recursion to model and solve problems.
SCS	The learner will describe and use recursively-defined relationships to solve problems.	<u>SCS.9_12.MA.3.01.a</u>	Find the sum of a finite sequence.
SCS	The learner will describe and use recursively-defined relationships to solve problems.	<u>SCS.9_12.MA.3.01.b</u>	Find the sum of an infinite sequence.
SCS	The learner will describe and use recursively-defined relationships to solve problems.	<u>SCS.9_12.MA.3.01.c</u>	Determine whether a given series converges or diverges.
SCS	The learner will describe and use recursively-defined relationships to solve problems.	<u>SCS.9_12.MA.3.01.d</u>	Write explicit definitions using iterative processes, including finite differences and arithmetic and geometric formulas.
CCSS	Seeing Structure in Expressions	<u>CCSS.9_12.MA.AL.A.SSE.4</u>	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. <i>For example, calculate mortgage payments.</i> ★
CCSS	Building Functions	<u>CCSS.9_12.MA.F.BF.2</u>	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★

CCSS	Linear, Quadratic, and Exponential Models*	<u>CCSS.9_12.MA.F.LE.2</u>	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).		
Learning Targets	<p>* Write the recursive formula and explicit formula given a list of numbers.</p> <ul style="list-style-type: none"> ◆ Identify an arithmetic sequence and write the recursive and explicit formula. ◆ Use the explicit formula to find a specific term. ◆ Find the partial sum of arithmetic series. ◆ Use summation notation to find the sum of a series. ◆ Write the recursive and explicit formula to <p>* Use the explicit formula to find a specific term.</p> <ul style="list-style-type: none"> ◆ Find the partial sum of a geometric series. ◆ Use summation notation to find the sum of a geometric series. ◆ Determine if an infinite geometric series converges or diverges. 				
Essential Terminology					
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	<ol style="list-style-type: none"> 1- Intro recursive and explicit formulas/Arithmetic Sequence 2- Arithmetic series 3- Geometric sequences 4- Geometric Series 5- Infinite geometric series, converges/diverges, recursive functions (Devil and Daniel Webster) 6- Review 7- Test 			
Differentiation	Remediation				
	Enrichment				