

# NCTM – National Mathematics Standards Correlation Report for Math & Music Multimedia Lessons

	Exploring Numbers					Mathematics of Music	Science of Music			Spaces & Shapes		
Standards for Grades 6-8	Primes	Abacus	Ancient Numbers	Duplation	Tallies	Ratios	How We Hear	Physics of Sound	Physics of Music	Areas	Angles & Triangles	Pythagorean Theorem
<b>Number and Operations</b>												
-Understanding numbers, ways of representing numbers, relationships among numbers, and number systems	<b>X</b>	<b>X</b>										
-Understand meanings of operations and how they relate to one another		<b>X</b>										
-Compute fluently and make reasonable estimates						<b>X</b>						
<b>Algebra</b>												
-Understand patterns, relations, and functions	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>						<b>X</b>	<b>X</b>	<b>X</b>
<b>Geometry</b>												
-Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships											<b>X</b>	<b>X</b>
-Apply transformations and use symmetry to analyze mathematical situations						<b>X</b>						
-Use visualization, spatial reasoning, and geometric modeling to solve problems	<b>X</b>						<b>X</b>			<b>X</b>		
<b>Measurement</b>												
-Understand measurable attributes of objects and the units, systems, and processes of measurement											<b>X</b>	
-Apply appropriate techniques, tools, and formulas to determine measurements						<b>X</b>				<b>X</b>	<b>X</b>	
<b>Data Analysis and Probability</b>												
-Select and use appropriate statistical methods to analyze data		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>	<b>X</b>
<b>Problem Solving</b>												
-apply and adapt a variety of appropriate strategies to solve problems	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>						

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<b>Standards for Grades 6-8</b>												
<b>Reasoning and Proof</b>												
-recognize reasoning and proof as fundamental aspects of mathematics						<b>X</b>					<b>X</b>	<b>X</b>
<b>Communication</b>												
-communicate their mathematical thinking coherently and clearly to peers, teachers, and others										<b>X</b>		
-use the language of mathematics to express mathematical ideas precisely										<b>X</b>		
<b>Connections</b>												
-recognize and use connections among mathematical ideas										<b>X</b>		
-understand how mathematical ideas interconnect and build on one another to produce a coherent whole										<b>X</b>		
<b>Representation</b>												
-create and use representations to organize, record, and communicate mathematical ideas		<b>X</b>	<b>X</b>		<b>X</b>							
-select, apply, and translate among mathematical representations to solve problems		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>	<b>X</b>
-use representations to model and interpret physical, social, and mathematical phenomena							<b>X</b>			<b>X</b>		<b>X</b>

## NCTM – National Mathematics Standards Correlation Report for Math & Music Multimedia Lessons

Standards for Grades 9-12	Exploring Numbers					Mathematics of Music	Science of Music			Spaces & Shapes		
	Primes	Abacus	Ancient Numbers	Duplation	Tallies	Ratios	How We Hear	Physics of Sound	Physics of Music	Areas	Angles & Triangles	Pythagorean Theorem
<b>Numbers and Operations</b>												
Understanding numbers, ways of representing numbers, relationships among numbers, and number systems				<b>X</b>						<b>X</b>		
<b>Algebra</b>												
Understand patterns, relations, and functions	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>	<b>X</b>
Represent and analyze mathematical situations and structures using algebraic symbols		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>	<b>X</b>
Use mathematical models to represent and understand quantitative relationships										<b>X</b>		
<b>Geometry</b>												
Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships											<b>X</b>	<b>X</b>
Use visualization, spatial reasoning, and geometric modeling to solve problems	<b>X</b>										<b>X</b>	
<b>Measurement</b>												
Apply appropriate techniques, tools, and formulas to determine measurements										<b>X</b>		
<b>Data Analysis and Probability</b>												
Understand and apply basic concepts of probability								<b>X</b>	<b>X</b>			
<b>Problem Solving</b>												
apply and adapt a variety of appropriate strategies to solve problems	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>						
<b>Reasoning and Proof</b>												
recognize reasoning and proof as fundamental aspects of mathematics						<b>X</b>					<b>X</b>	<b>X</b>
develop and evaluate mathematical arguments and proofs												<b>X</b>

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<b>Communication</b>												
communicate their mathematical thinking coherently and clearly to peers, teachers, and others										<b>X</b>		
use the language of mathematics to express mathematical ideas precisely										<b>X</b>		
<b>Connections</b>												
recognize and use connections among mathematical ideas										<b>X</b>	<b>X</b>	<b>X</b>
recognize and apply mathematics in contexts outside of mathematics						<b>X</b>		<b>X</b>	<b>X</b>			
<b>Representation</b>												
create and use representations to organize, record, and communicate mathematical ideas		<b>X</b>	<b>X</b>		<b>X</b>							
select, apply, and translate among mathematical representations to solve problems		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>					<b>X</b>	<b>X</b>	<b>X</b>
use representations to model and interpret physical, social, and mathematical phenomena							<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		

## California Academic Content Standards Correlation Report for Math & Music Textbook

	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8
<b>Mathematics Standards for Grade 7</b>	Mathematics or Arithmetic	Early Number Systems	Operations of Arithmetic	Number Patterns	Introduction to Algebra	Exploring Trigonometry	Mathematical Reasoning	Science of Sound
Number Sense – 1.4							x	
Number Sense – 2.2			x					
Number Sense – 2.3			x	x				
Number Sense – 2.5			x					
Algebra and Functions – 1.1					x			
Algebra and Functions – 1.4					x			
Measurement and Geometry – 2.1			x					
Measurement and Geometry – 3.3							x	
Mathematical Reasoning – 1.1	x	x	x	x				
Mathematical Reasoning – 1.2						x	x	
Mathematical Reasoning – 2.2				x				
Mathematical Reasoning – 2.3					x			
Mathematical Reasoning – 2.4			x					
Mathematical Reasoning – 2.5	x	x	x		x	x	x	x
Mathematical Reasoning – 2.6	x	x	x		x	x	x	
Mathematical Reasoning – 3.3			x					
<b>Mathematics Standards for Grades 8-12</b>								
Algebra I- 11				x				
Algebra I- 12			x	x				
Geometry - 12						x		
Geometry - 13						x		
Geometry - 14						x	x	
Geometry - 15						x	x	
Geometry - 18						x		
Geometry - 19						x	x	
Geometry - 20						x	x	
Algebra II- 21			x	x				
Algebra II- 25			x					
Trigonometry - 1						x		
Trigonometry – 5						x		
Trigonometry – 12						x	x	
Trigonometry – 19						x		
Mathematical Analysis - 3			x					x
<b>Science Standards for Grade 7</b>								
Life Science:Structure and Function in Living Systems: 5g								x

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<b>Science Standards for Grade 8</b>								
Physical Science: Motion : 1c					x			x
<b>Science Standards for Grades 9-12</b>								
Physics: Waves : 4b								x
Physics: Waves : 4c			x					x
Physics: Waves : 4d								x
Physics: Waves : 4f			x					x
Earth Sciences : Investigation and Experimentation : 1a					x			
Earth Sciences : Investigation and Experimentation : 1d					x			