


## Mathematical Models with Applications Curriculum Bundle #6

<b>Title</b>		<b>Suggested Dates</b>
Math in Music		December 7 – December 18 (10 days)

<b>Big Idea/Enduring Understanding</b>	<b>Guiding Questions</b>
Periodic motion and geometric transformations can be used in composing music and in determining amplitude and frequency of musical notes.	1. How does musical composition relate to geometric patterns?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
<p><b>M.9 The student uses algebraic and geometric models to represent patterns and structures.</b></p> <p>M.9B use geometric transformations, proportions, and periodic motion to describe mathematical patterns and structure in music.</p>	<ul style="list-style-type: none"> <li>• Review proportions in music context</li> </ul>	<p><b><u>Dana Center Website</u></b> Instructional Materials Math Models Fine Arts: Music</p>
<p><b>M.8 The student uses algebraic and geometric models to describe situations and solve problems.</b></p> <p>M.8B use trigonometric ratios and functions available through technology to calculate distances and model periodic motion;</p>	<ul style="list-style-type: none"> <li>• Not extremely detailed graphing of trig functions, just overview</li> <li>• Use calculators to graph</li> </ul>	<p><b><u>Holt Algebra 2</u></b> Section 14.1 p. 792 – 793 (graphing notes)</p> <p><b><u>Share Drive</u></b> !PISD Public Math Models Trig Matching (graphing worksheet)</p>
<p><b>M.3 The student develops and implements a plan for collecting and analyzing data in order to make decisions.</b></p> <p>M.3B communicate methods used, analyses conducted, and conclusions drawn for a data-analysis project by written report, visual display, oral report, or multi-media presentation;</p>	<ul style="list-style-type: none"> <li>• Ongoing skill</li> </ul>	