**Using Music with the Mathematics Curriculum**

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* The Music Curriculum includes 3 Strands- creating, understanding/basis of music, responding
* Outline of basic ways to integrate Math and Music

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| --- | --- |
| Serial Order  o   Using different songs and putting the sections or the text in order  visually with the children | Graphing  o   Syllables of students names  o   Length of the strings on different instruments |
| Sorting/Classifying  o   Instruments, rhythms | Patterns  o   Rhythmic patterns |
| Ratios  o   Number of instruments in a group or band and how these compare using sound  o   Compare the different parts of instruments and the ratio of their lengths | Fractions  o   Rhythm units (eighth notes, quarter notes, half notes, whole notes) show how a number can be divided.  Have one half of the class keeping one rhythmic unit (example half notes, while the other keeps quarter notes) to show a fraction of a half.  Students can then be given a four beat measure and they have to find different ways of representing that number using different rhythm units. |
| Measurement  o   Measuring the diameter and radius of brass instruments  o   Measuring the lengths of different string and then see how the length of the string affects the pitch created when plucked |  |

**Resources - General Information:**

Johnson, G. L., & Edelson, J. R. (2003). Integrating Music and Mathematics in the Elementary     Classroom. *Teaching Children Mathematics.* Retrieved from:      <http://lesage.blogs.uoit.ca/wp-uploads/2010/08/Integrating-Math-Music-2003NCTM.pdf>

*This article has activities for each grade level*

Demorest, Steven M. & Morrison, Steven J. (2000). Does Music Make you Smarter? Music Educators Journal. 87(2), pp. 33-39.  
*Talks about music as a separate intelligence that needs to be used and learned like other intelligences so one should use it when teaching other subject as well.*  
Geist, Kamile & Geist Eugene A. & Kuznik Kathleen (2012). The Patterns of Music: Young Children Learning Mathematics through Beat, Rhythm, and Melody. *Young Children.* January, pp. 74-79.  
*Talks about the relationship with Math and Music and the development of the mind and why they should be taught together.*  
Bamberger, Jeanne (2000). Music, Math, and Science: Towards and Integrated Curriculum. *Journal for Learning Through Music*, Summer, pp. 32-35.  
*Gives sample activities of how to integrate these three subject areas(music, math and science) and their relationships to each other.*

Taylor, J. M., & Rowe, B. J. (2012). The “Mozart Effect” and the Mathematical Connection. *Journal of College Reading and Learning, 42*. Retrieved from:  <http://www.eric.ed.gov/PDFS/EJ972860.pdf>

*“Mozart Effect” is a study that was done through neuropsychologists who tested student’s performances after studying while listening to classical music*

Zhan, C. (2002, January). The correlation between music and math: A neurobiology perspective.

*Serendip*.  Retrieved from <http://serendip.brynmawr.edu/exchange/node/1869>

*Zhan states that studies have shown listening to classical music enhances your mathematical abilities.*

**Music for the Kindergarten Curriculum**

Ten in a bed <http://www.edu.uwo.ca/essofamilymath/fmresource/games/tenInBed/10Bpmath.asp>

The shape hokey-pokey. <http://lessonplanspage.com/MathMusicHokeyPokeyShapesIdeaPK.htm/>

Pancake Manor Shapes song by Billy Reid <http://www.youtube.com/watch?v=dsR0h50BiFQ>

**Music for the Grade 1 Curriculum**

Even Odd Number Chant/Day of the week/date song (Frere Jacques) <https://docs.google.com/file/d/0B6AmSa_yfrAgMTBhMmE3YmMtMGM1YS00ODA3LThhMzgtMmJmNTI3M2FhNDYz/edit?hl=en_US>

Musi-Matics: Ordering Numbers <http://www.youtube.com/watch?v=q8hVqTw6hQU>

Developing name patterns <http://lesage.blogs.uoit.ca/wp-uploads/2010/08/Integrating-Math-Music-2003NCTM.pdf><http://www.philtulga.com/patternblock.html>

**Music for the Grade 2 Curriculum**

Odd and Even Song <http://www.youtube.com/watch?v=2RHzph-ikl0&list=UUnY809iVJMlasZ-XAwksrNg&index=54>

Place Value Song <http://www.youtube.com/watch?v=ATgnG0M3S3Q&list=UUnY809iVJMlasZ-XAwksrNg&index=93>

Doubles Rap <http://bps.nbed.nb.ca/other/video/doubles-rap>

Macarena Skip Counting <http://www.youtube.com/watch?v=pVUnxXBO6xs>

Pattern <http://www.philtulga.com/patternblock.html>

**Music for the Grade 3 Curriculum**

Song: Times Facts (to the tune of Skip to My Lou) <http://lessonplanspage.com/MathMusicMultiplicationFacts24.htm/>

3D Shapes Song <http://www.youtube.com/watch?v=2PiRhCwzg5E&list=UUnY809iVJMlasZ-XAwksrNg&index=56>

**Music for the Grade 4 Curriculum**

Nine songs on different topics <http://www.mhschool.com/math/common/ebook_assets/MH_Math_songs/gm/grade4/index.html>

Playing Fraction Pies <http://www.philtulga.com/pie.html> & Fraction Bars <http://www.philtulga.com/fractionbars.html>

Teaching fractions with musical notes <http://www.deseretnews.com/article/765578266/Math-music-can-be-taught-together.html?pg=all>

**Music for the Grade 5 Curriculum**

Area, Perimeter, volume songs <http://mrsjessicawhite.edublogs.org/files/2010/07/Songs-to-teach-content.pdf>

Graphing Pitch<http://www.teachervision.fen.com/graphs-and-charts/lesson-plan/10339.html?detoured=1>

**Discussion Questions**

Does anyone have any activities that they used during their internship, to integrate Mathematics and Music, which they would like to share with the class?

Are there any activities that people are particularly keen to share with their classes in the future?

Which areas of mathematics do you think students would find music integration the most beneficial?

Which is scarier to you, the math or the music? Would you find it difficult teaching any of the strategies presented?