**STEM Conference 2012**

Education Sector

Group 10

Thursday February 9, 2012

Group 10 members: Kim Verver, Julie Sijgers, Erin Hosler, Richard Pullen, Roya Saben

Project Goal: ***Students will understand the relevance of STEM courses through an exploration of the history of music recording technology and electronic music production.***

**During this project students will:**

1. Develop a timeline tracing the development of audio recording technology from the Edison Phonograph to the MP3 player.
2. Use microphone and speaker construction to explore the phenomena of electrical induction.
3. Research the physics of sound waves and the analog and digital storage and retrieval of audio signals.
4. Utilize free software to create, record, edit and process audio samples.

**Instructional strategies and resources**

* Hands on engaging activities – ex. Make speaker using cups and string. Make a speaker using wire, magnet and plastic cup. Experimenting with sound, instruments, everyday materials, computer generated, etc. Explore sound in different room and with different materials. Many more examples available.
* Doesn’t require specialized equipment – Free software, found objects, school space, everyday materials, donated materials from local businesses.
* Community resources visiting classrooms to bring in musical equipment – parents, businesses, colleges.

**Instructional experience and assessment for K through community college students**

* Written – report, timeline, diagram, data, music composition, reflections, class discussions
* Presentations – Power Points, video, cd, demonstration, oral

**Possible avenues for K through community college collaboration**

* Sharing knowledge gained through the project to different levels going above and below current grade level, or presentation to parents, community members, “authentic audiences.”
* Sharing lessons learned and opportunities missed.
* Student panel forum