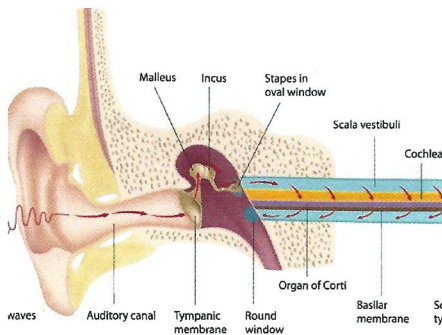
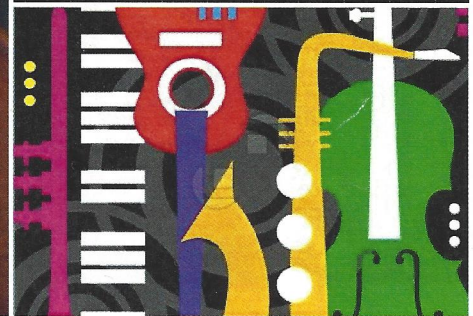
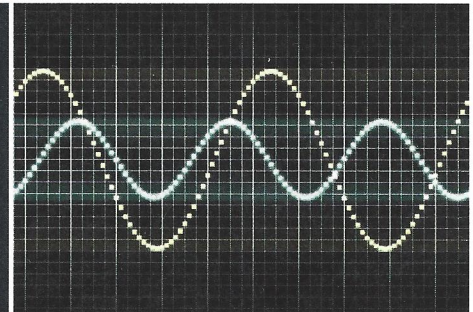




# A Symphony Of Sound: *Is music art or science?*



People are drawn to music. They love to listen to music, they love to dance and sing and even work to it. Music can generate connections and stimulate emotions. Our favorite songs have the ability to transport us to another time and place. They can make us laugh or cry. Music is powerful.

Students will exhibit their final work and perform on Thursday, March 17th, 2016 at HTe's Spring Exhibition

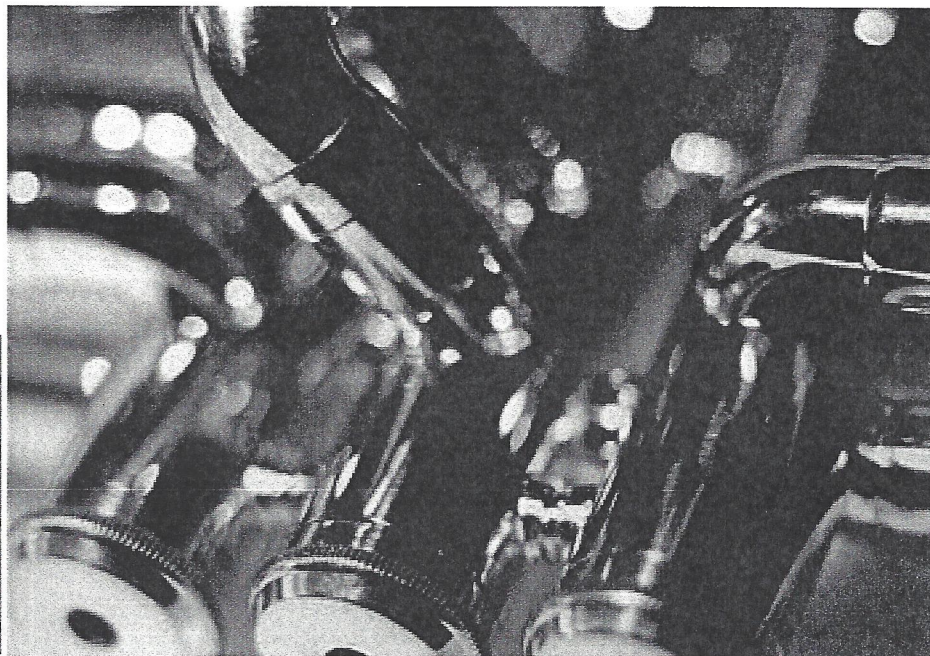
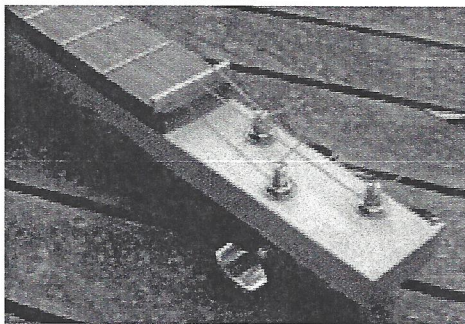
A Team 5 project  
High Tech Elementary



But what is the science behind music? In order to delve deeper into this question Team 5 students will explore science of sound and sound waves through experiments and activities. They will gain an understanding of how sound is created, how sound travels, and how sound is received and interpreted.

This project will also introduce the students to the fundamentals of making music and building musical instruments. They will explore how different elements of an instrument affect the sound it produces. Their study will focus primarily on percussion, string and wind instruments.

# MUSEUM OF MAKING MUSIC



**MATH  
LANGUAGE  
HISTORY  
READING  
SCIENCE**

“It would be possible to describe everything scientifically, but it would make no sense; it would be without meaning, as if you described a Beethoven symphony as a variation of wave pressure.”

**A. Einstein**

**Field experiences** will take students all over San Diego exploring how music is made. They will visit the World Beat Center, and the Museum of Making Music where they will further their knowledge of music and sound. Various musicians will visit the class to offer knowledge and expertise.

## **Timeline**

The project will take place over a 10 week period. Students will work on the project daily. Much of the math, reading, history, and writing will be taught through the project.

## **Products**

- A hand crafted musical instrument
- An original musical score
- A research paper
- A trifold display explaining their instrument
- Musical-themed computer animation on Scratch

## **Students will...**

- describe how sound waves are created and how they travel through different mediums.
- explore the effect of length, thickness and tension on pitch.
- describe how our ear detects sound and turns it into brain signals.
- discover how musical notes that have a frequency ratio of 2:1 are said to be separated by an octave.
- discover the term "note" in music describes the pitch and the duration of a musical sound.
- develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.
- write informative/explanatory texts to examine our topic and convey ideas and information clearly.
- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
- Planning and carrying out investigations to answer questions or test solutions to problems
- Report on a topic, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace