

# Group Project

Due: Wed. December 9

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Physics 1320

Music & Physics

Prof. Tunks & Olness

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This counts for 3 quiz grades. You may work in groups of 2 or 3.

*(If you really want to work in a group of 1 or 4, bring us a proposal.)*

After you find your topic, FIRST email Prof. Olness for an OK.

Projects are due Wednesday December 9, last day of instruction.

## Possible Topics:

Find a way to illustrate different musical temperaments

Build a model of part of the ear

Experiment with conical pipes, w and w/o mouthpieces; hose-a-phone

Video of a strobe on various instruments.

I am sitting in a room: demonstration of room resonances.

Shatter wine glass with instrument, voice, or freq generator.

Experiments with a Roland synthesizer.

Build a 2<sup>nd</sup> laser-light demo.

Digital video of a wolf-tone with explanation.

Take a violin; cover the f-hole; add weight (clay) to parts: find spectrum

Find the range of a trumpet; can you throw farther left or right handed?

Build a home-made recorder and space the holes evenly.

Build a set of chimes from steel pipes: w & w/o notches.

For a woodwind; what is relation to note and open pipe length?

Build a low frequency resonator.

Use Audacity to record room echos of a popped balloon

Happy birthday w/ 2 harmonies to illustrate masking.

Other ways to measure speed of sound?

Find/Make/Modify java applet to illustrate key property.

... and all the others I've not thought of.