

## TE 408: 2nd Lesson Plan and Report

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Date: 2/23/06	

### Part I: Information about the Lesson or Unit

**Topic:**

Subject:

Physical science

Topic:

Waves and Vibrations: Sound, Periodic Motion, and Mechanical Vibrations

**Type of Class**

- Grade level(s): 6 elective/high track
- Type of school: Urban
- Tracking level: Untracked (Magnet School Program)

**Abstract**

I will lead the students through an interactive computer activity which requires them to use computer simulated data to solve a theoretical problem about the interference of sound waves. For this "Sound Bites" program, students will first read a short letter about the problem they are facing—the guinea pigs in a pet shop keep biting customers because they are bothered by a humming sound coming from the freezer next door. The pet shop owner wants to use a sound wave generator to interfere with this sound. Then, the students will each write out the problem in their own words. The students will read articles about properties of waves that come along with the interactive program, and they will answer questions on the accompanying worksheet. Finally, I will guide the students through the data collection part of the interactive program. This involves seeing what will happen if waves of different frequencies, wavelengths, and phases are added together to simulate how to solve the problem presented previously. Finally, students will write a short paragraph giving their conclusion about what should be done about this problem and why.

### Part II: Clarifying Your Goals for the Topic

**Knowledge: Big Ideas**

A wave is a disturbance that travels from one location to another. While a pulse is just a single disturbance in moving from one location to another, a wave is a repeating and periodic disturbance. There are many different ways to classify waves. *Longitudinal waves are those in which the motions of the particles travel in a direction that is parallel to the direction of the energy flow. Sound waves are an example of longitudinal waves, in which the vibrations of particles traveling through a medium creates sound. The medium*