



CNS Institute for Physics Teachers
Spring Workshop
“Making Waves in Music”

Saturday, April 5, 2008

Schedule

8:30 – 9:00 am	Registration and Continental Breakfast
9:00 – 9:20 am	Welcome
9:20 -10:20 am	Kathy Selby , “Physics of String Instruments”
10:30 – 11:45 am	Lab Activity
11:55 – 1:20 pm	Lunch
1:30 – 2:30 pm	Phil Krasicky , “Physics of Wind Instruments”
2:40 – 3:55 pm	Lab Activity
4:00 – 4:15 pm	Closing and Evaluation

Activities

“Resonance in Transverse Waves”

This experiment is designed to develop the student’s understanding of resonance. Students explore the conditions needed to establish standing waves on a string and discover the relationship between nodes and antinodes for different resonant modes. Students also determine the relationship between frequency and wavelength for a fixed length of string.

“Catch a Longitudinal Wave”

Students explore the properties of longitudinal waves. The fundamental frequency and several harmonics will be calculated based upon the speed of sound for a 70 cm long tube. The displacement wave will be discussed the corresponding pressure wave inside the tube will be experimentally determined using a piezoelectric material (microphone).

The workshop is limited to the first 40 teachers who register (\$20 refundable deposit is required). Continental breakfast and lunch are provided. Lunch will also be an informal sharing session. Teachers are asked to share a favorite demonstration they use in their classrooms. Participants will receive a DVD with the two musical demonstration lectures for classroom use. A certificate for five contact hours will be awarded for participation.

