

# ATLANTA PERCUSSION TRIO

## Sound Lab

### ABOUT THE PROGRAM

Percussion is the name given to any instrument whose sound is created by striking. The percussion family of instruments is the largest and most diverse family. Percussion instruments are some of the oldest and newest instruments known to man. Some percussion instruments are melodic in nature (i.e. xylophone, marimba, bells), some are characteristically rhythmic (i.e. drums, tambourines, castanets), and some are generally used as sound effects (i.e. gongs, ratchet, slapstick).

"Sound Lab" explores some of the relationships between music and science and math. Using a wide variety of visual aids and a vast array of percussion instruments the trio connects seemingly unrelated disciplines in a highly participatory format. The opener and second selection, played on PVC tubes and tuned bowls, illustrate principles of sound creation such as the relationship between length or mass and pitch, vibrations and resonance. Students then help create the natural sounds of the Rainforest. Instruments and music from the African continent demonstrate the importance of numbers and math to music. The story of the invention and refinement of the steel drum illustrates the scientific method of experimentation as well as principles of acoustics. The finale showcases some of the ways technology has changed music during the past fifty years as electronics combine with student participants in a high-spirited musical celebration.

### OBJECTIVES

- To demonstrate the connections between music and science and math in a fun and entertaining manner
- To musically and visually reinforce specific scientific principles
- To teach a simple musical counting system and illustrate the importance of numbers to musicians
- To provoke thought concerning the "natural music" of our environment and the importance of Ecology
- To show some of the ways which technology has changed both making and listening to music in the 20th and 21st Centuries

### VOCABULARY

- Percussion- instruments played primarily by striking
- Rhythm- the organization of sound in time
- Vibration- rapid, repeated motion
- Resonance- the echoing or resounding of sounds
- Pitch- the exact tone a sound makes (high or low)
- Ecology- science of the relationships between organisms and their environments
- Rainforest- a tropical forest in an area of high rainfall
- Djembe- African drum carved from the trunk of the Bau-mau tree with goat skin stretched over one end
- Polyrythm- more than one rhythm occurring simultaneously
- Steel drum or Steel pan- melodic instrument invented on the island of Trinidad, made from 55 gallon oil drum
- Acoustics- the study of sound and how it travels
- Sequencer- a combination keyboard/computer that can be programmed and used to augment live performances