

Hey! What's that Sound?

with Dave Holland

STUDY GUIDE

Program Description

In this 45 minute assembly program, Dave leads an interactive discovery of sound and science through world percussion performance and demonstration. With various instrument timbres and environmental resources, he demonstrates three characteristics of a sound wave: wavelength, frequency, and amplitude. Students learn how sound is produced and how it is transmitted and received. They also witness how various sounds come together to create what the brain receives as music.

Suggested Georgia Performance Standards Connections

- * S1P1. c&d - Students will investigate light & sound:
 - c. Investigate how vibrations produce sound.
 - d. Differentiate between various sounds in terms of (pitch) high or low and (volume) loud or soft.
- * S4P2 a&b - Students will demonstrate how sound is produced by vibrating objects and how sound can be varied by changing the rate of vibration.
 - a. Investigate how sound is produced.
 - b. Recognize the conditions that cause pitch to vary.
- * M1GM.6 a&b - Listening to, analyzing, and describing music:
 - a. Distinguish between contrasts (pitch, dynamics, tempo, timbre) in various pieces of music.
 - b. Describe music using appropriate vocabulary (e.g., high, low, loud, quiet, fast and slow).
- * M4GM.8 - Understanding relationships between music, the other arts, and disciplines outside the arts.

Artist Bio

Dave Holland is a highly charged world percussionist and teaching artist. performer and highly charged educator. As founder of *Beatin' Path Rhythm Events*, Dave spreads the message of community, teamwork, diversity, and environmental awareness through drum circles and interactive performances. He regularly performs and facilitates drum circles at regional area schools, urban communities, health fairs, and festivals. Dave's world travels include Cuba, Africa, Brazil, Italy, Spain, Australia, Japan, Russia and Turkey.

Pre-Performance Conversation Starters & Activities

What is percussion?

How are drums made?

What are some ways you could learn to play the drum?

What are some different actions that could be used to produce sound?

What does energy have to do with producing sound?

What is the difference between noise and music?

Can you make 3 different noise with your voice? Can you use those noises to make a rhythm?

Post Performance Reflections & Activities

* How many different instruments did you see on stage today? What were your favorites?

* Listen to 3 different types of music. What timbres do you hear? What instruments are creating the music? Which instrument has the highest/lowest pitch?

* Draw a picture of your own drum. What natural resources is it made of? How will that affect the sound?

* Journal about the performance experience.

* Create a group rhythm piece that demonstrates frequency and amplitude.

* Draw a picture of a sound wave that demonstrates high frequency. Now draw picture beside it that best matches that frequency. Do the same for low frequency!

Vocabulary

rhythm – the regular pattern of beats; the aspect of music comprising all the elements (accent, meter, and tempo) that relate to a forward movement

pitch - how high or low a sound is; determined by the frequency of the vibration

sound wave - a moving pattern of high and low pressure or vibrations

amplitude - the measurement of a sound's volume

found sound - instruments created by ordinary objects: keys, desk, book, spoons, etc.

timbre - the quality of sound produced by an instrument, affected by an instrument's shape, resources and techniques used to create sound

body music - using voice and body percussion (snapping, clapping stomping, etc.)

frequency – the rate at which a vibration occurs, constituting a sound wave.

air molecules – very small particles in the air through which vibrations are transmitted.
(Sound cannot occur in a vacuum!)