



YOUR SOUND ON STAGE

Meets National Core Arts Standards 9, 11

OBJECTIVES

- Apply criteria to evaluate artistic work (*Re9*)
- Relate artistic ideas and works with societal, cultural and historical context to deepen understanding (*Cn11*)

MATERIALS

- *Music Alive!* magazines (February 2018)
- *Music Alive!* Classroom Worksheet #6: All About the Article (download at musicalive.com)
- Computer or mobile device with Internet access

START

1. Ask your students to read “Your Sound on Stage” on pages 6-9. Then, go over the following highlighted words.

[This reinforces comprehension and vocabulary.]

AMPLIFY—increase the volume of sound

AMPLITUDE—the volume of a soundwave

IMPULSE—a pulse of electrical energy

EQUALIZATION—the process of adjusting the balance between frequencies within an electronic signal

MONITORS—a device used for observing sound from the perspective of the people performing

AUXILIARY—additional

DEVELOP

1. Visit musicalive.com/sound-systems to play the video Parametric Equalizer. Explain to students that a parametric equalizer allows a sound engineer to adjust the equalization of an audio signal, or the particular volume levels of high, midrange, and low frequencies. The frequency is represented on the x-axis while the volume level is shown by the height of the line on the y-axis. Watch the video with students, then ask the following questions.

ASK

What is frequency? (A measurement for pitch.)

What do the knobs under the “MF” label do? (These knobs correspond to the yellow controlling marker on the line. The “FREQ” knob adjusts the marker to the frequency you want to control. The knob labeled “GAIN” adjusts the volume level of that frequency. The knob labeled “Q” adjusts the bandwidth, or range of frequencies affected around the marker.)

What is the user doing when they’re “sweeping the frequency”? (Moving the controlling marker designated as “midrange,” along with its designated volume level, to different frequencies.)

What is the user doing when they’re “boosting or cutting the gain”? (Raising or lowering the volume on a specific frequency range.)

What is the user doing when they’re “notch filtering”? (Lowering the volume dramatically on a specific frequency.)

2. On the same webpage, play the videos Hi-Pass Filter and Lo-Pass Filter. Hi- and lo-pass filters are devices used for modifying audio signals. Watch the videos with students, then ask the following questions.

ASK

How does the sound change when the hi-pass filter is raised? (We hear only high frequencies.)

Why is this? (Raising the filter lowers the threshold at which lower frequencies can be heard.)

What is the effect when the hi-pass filter is lowered? (The sound becomes fuller—now lower frequencies can be heard.)

Why is this? (The threshold is raised, meaning more low frequencies are allowed to pass through the mix.)

How does the sound change when the lo-pass filter is raised? (We hear a fuller sound with both low and high frequencies.)

Why is this? (Raising the filter raises the threshold at which higher frequencies can be heard.)

How does the sound change when the lo-pass filter is turned down? (High frequencies are cut off and we only hear low frequencies.)

Why is this? (It lowers the threshold above which higher frequencies can be heard.)

▶ 3. On the same webpage, play the Sound Check video for students, then ask the following questions.

ASK

Where is the main mixer positioned? (Front of house, the edge of the audience opposite to the stage.)

What instrument does sound check first? (Drums.)

Which instruments are checked after drums? (Bass and guitar.)

What kind of monitors were the band using? (In-ear monitors.)

Which levels did the band adjust first, individual or full-band? (Individual.)

CLOSE

Pass out copies of the All About the Article worksheet to students. Have them fill them out based on what they learned. Afterwards, start a discussion with students about what they learned and what they find the most interesting about the article. Do they have a better understanding of sound systems? Make sure to collect the worksheets afterwards and review their answers.

ASSESS

Did the students read the article?

Did they watch the videos?

Did they answer the supplementary questions?

Did they fill out the All About the Article worksheets?

Did they participate in a discussion about the article?