

CNU LESSON PLAN FORMAT

Teacher: Mr. Simmons Grade Level 10th

Course Title High School Music Theory 1 Date 8/10 Apr 2024

Unit Topic Sound

Lesson Topic: Beat Frequencies

SOL Correlation: N/A

Lesson Objective(s): Review the overtone series and then teach beat frequencies.

Procedures (including times for each part):

1. Introductory Activities (including time estimates):

Review Overtone series with group quiz on different waves.

1. Show a basic wave and label amplitude and frequency
2. Compare waves with higher and lower frequency and amplitude
3. Review Major chord (use 110 Hz and base frequency)

2. Instructional Activities/Procedures (including time estimates):

1. Bring up tone generator
 - a. Play the different frequencies to demonstrate octaves
 - b. Play the 330 Hz, 550 Hz, and 660 Hz to demonstrate the different intervals.
2. Have a student sing a pitch and then sing with, but out of tune.
 - a. Ask how we can tell it's out of tune.
 - b. Lead to the "beat" sound going away
3. Give the equation for beat frequency.
 - a. Demonstrate with 441 Hz against 440 Hz as well as 442 Hz, etc.
 - b. Show how the beat frequency for the harmonic series are also multiples of the fundamental frequency.

3. Closing Activities (including time estimates):

1. Come up with 2-3 frequencies to put in the frequency generator.

Instructional Materials:

Basis for Grouping (if grouping is used): N/A

Student Evaluation: How did the students do with the opening activity and did they come up with something interesting sounding for their 2-3 tones in the frequency generator.

Supporting Assignments (Homework):

Adaptations/Accommodations/Differentiation:

Comments about the lesson for revision: