

## CNU LESSON PLAN FORMAT

Teacher: Mr. Simmons Grade Level 10th

Course Title High School Music Theory 1 Date 25/27 March 2024

Unit Topic Sound

Lesson Topic: Overtone Series

SOL Correlation: N/A

Lesson Objective(s): At the end of this lesson, students will be able to explain the overtone series and describe why the major chord is heard as a “pleasant” sound

Procedures (including times for each part):

1. Introductory Activities (including time estimates):  
Strings to simulate waves.
  1. Have students lay out string in waves
  2. Make “more wavy”
  3. Make “bigger waves”
  4. Have a ruler to demonstrate “more waves”
    - a. Ask what happens to pitch with “more”
    - b. With “fewer” waves
2. Instructional Activities/Procedures (including time estimates):
  1. Explain the difference between frequency and amplitude
    - a. Units for frequency (Hz) and amplitude (dB)
    - b. Briefly explain differences between how frequency and amplitude go up
  2. The overtone series
    - a. Building on 1.b., demonstrate that doubling the frequency means we go up by an octave.
    - b. Use piano to demonstrate doubling the frequency and moving from one octave to the next.
    - c. Ask them where they think 3x the fundamental frequency will land.
    - d. Continue with this until we have built a complete major chord.
3. Closing Activities (including time estimates):
  1. Lay strings out and have students build the overtones on top of each previous one.

Instructional Materials:

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

Student Evaluation: Were the students able to build the harmonic series with root, 3rd and 5th?

Supporting Assignments (Homework):

Adaptations/Accommodations/Differentiation:

Comments about the lesson for revision: